JANUARY/FEBRUARY 2001

FAA Aviation News

AVIATION SAFETY FROM COVER TO COVER

Page One:

Those "Worthless" VFR Flight Plans

U.S. Department
of Transportation

**Federal Aviation
Administration**

Rodney E. Slater, *Secretary of Transportation*
Jane F. Garvey, *FAA Administrator*
Thomas E. McSweeny, *Associate Administrator for Regulation and Certification*
L. Nicholas Lacey, *Director, Flight Standards Service*
Michael L. Henry, *Manager, General Aviation and Commercial Division*
Phyllis Anne Duncan, *Editor*
Louise C. Oertly, *Senior Associate Editor*
H. Dean Chamberlain, *Forum Editor*
A. Mario Toscano, *Associate Editor/Designer*
Deidra Shaw, *Administrative Assistant*

The FAA's Flight Standards Service, General Aviation and Commercial Division, Publications Branch, AFS-805, Washington, DC 20591; telephone (202) 267-8212, FAX (202) 267-9463; publishes FAA AVIATION NEWS in the interest of flight safety. The magazine promotes aviation safety by calling the attention of airmen to current technical, regulatory, and procedural matters affecting the safe operation of aircraft. Although based on current FAA policy and rule interpretations, all printed material herein is advisory or informational in nature and should not be construed to have regulatory effect. The FAA does not officially endorse any goods, services, materials, or products of manufacturers that may be mentioned. **Certain details of accidents described herein may have been altered to protect the privacy of those involved.**

The Office of Management and Budget has approved the use of funds for the printing of FAA AVIATION NEWS.

SUBSCRIPTION SERVICES
The Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9371, sells FAA AVIATION NEWS on subscription. Use the self-mailer form in the center of this magazine to subscribe.

CHANGE OF ADDRESS OR SUBSCRIPTION PROBLEMS
Send your label with correspondence to Sup Doc, Attn: Chief, Mail List Branch, Mail Stop: SSOM, Washington, DC 20402-9373. Or call GPO Customer Service at (202) 512-1800/6; FAX: (202) 512-2168.

To keep subscription prices down, the Government Printing Office mails subscribers only one renewal notice. You can tell when your subscription ends by checking the date on the second line of your mailing label. To be sure that your service continues without interruption, please return your renewal notice promptly.

**********3-DIGIT 342
FAN SMITH212J JUN02 R 1 423*
JOHN SMITH
212 MAIN ST
FORESTVILLE MD 20747

http://www.faa.gov/avr/news/newshome.htm

JANUARY/FEBRUARY 2001

FAA Aviation news

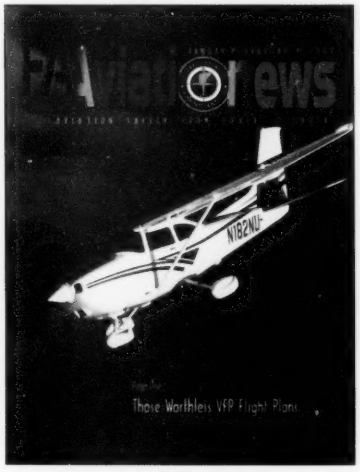
VOLUME 40 - NUMBER 1

FEATURES

1 Those 'Worthless' VFR Flight Plans
3 To Enter "B" or Not to Enter "B"...
4 Big Deal
6 Attention Pilots
8 Hazardous Chemicals in the Aviation Workplace
13 Cessna Fatal Spin Accident
14 A Long Time Ago
19 Termination of 121.5 MHz ELT Monitoring Announced
21 MRE's and Aircraft Don't Mix
22 Super Bowl XXXV Special Air Traffic Procedures
24 Overloading

DEPARTMENTS

17 MedicalStuff: Depression
25 FlightFORUM
27 AvNEWS
BACK COVER Editor's Runway



FRONT COVER: Cessna 182 Skylane (Cessna photo)

BACK COVER: A Kolb FireFly in flight. (Mario Toscano photo)

Form Approved: OMB No. 2120-0026

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION **FLIGHT PLAN**	(FAA USE ONLY) ☐ PILOT BRIEFING ☐ VNR ☐ STOPOVER	TIME STARTED	SPECIALIST INITIALS

1. TYPE	2. AIRCRAFT IDENTIFICATION	3. AIRCRAFT TYPE/ SPECIAL EQUIPMENT	4. TRUE AIRSPEED	5. DEPARTURE POINT	6. DEPARTURE TIME		7. CRUISING ALTITUDE
					PROPOSED (Z)	ACTUAL (Z)	
☐ VFR							
☐ IFR							
☐ DVFR			KTS				

8. ROUTE OF FLIGHT

9. DESTINATION (Name of airport and city)	10. EST. TIME ENROUTE		11. REMARKS
	HOURS	MINUTES	

12. FUEL ON BOARD		13. ALTERNATE AIRPORT(S)	14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME BASE	15. NUMBER ABOARD
HOURS	MINUTES			
			17. DESTINATION CONTACT/TELEPHONE (OPTIONAL)	

16. COLOR OF AIRCRAFT	CIVIL AIRCRAFT PILOTS. FAR Part 91 requires you file an IFR flight plan to operate under instrument flight rules in controlled airspace. Failure to file could result in a civil penalty not to exceed $1,000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans.

FAA Form 7233-1 (8-82) CLOSE VFR FLIGHT PLAN WITH_____ FSS ON ARRIVAL

Those "Worthless" VFR Flight Plans

by Andy Applegate

In this go and do faster world that we live in, day in and day out, the last thing on many pilots' minds is filing a flight plan, especially if they are flying in a VFR environment. Reliance on inventions like LORAN and GPS have caused some pilots to just jump in the airplane and takeoff without performing all the usual preflight planning activities before they go. Now imagine that you didn't conduct any preflight planning or file a VFR flight plan from your home airport to go to your favorite vacation spot in the Upper Peninsula of Michigan. Along the way you run into bad weather or get off course and run out of fuel and, unfortunately, end up crashing somewhere between here and there. Who's going to look for you or even know you're missing? If you, however, had taken the time to file a VFR flight plan with Lansing Automated Flight Service Station (AFSS) or filed it over the direct user access terminal system (DUATS, which is tied in with the Flight Service Station's messaging system) and activated it soon after your departure, search and rescue units would be out within hours to start locating your accident scene.

VFR flight plans are not required by the Federal Aviation Regulations (FAR) to be on file with a Flight Service Station (FSS). However, it has been a recommended policy that a flight plan should be filed for every crosscountry flight where your intended point of landing is more than 50 nautical miles from the original point of departure. This is not to say that you can't file a flight plan for a trip that is only fifteen miles from your point of departure—YOU CAN! VFR flight plans give you an added insurance of safety that, if by chance something drastic happened during your flight, someone will be waiting on the other end to hear from you. And can you believe that it doesn't cost you a penny? That's right. IT'S FREE!

There is a discouraging step that everyone who does file a VFR flight plan sometimes forgets to perform—CLOSING THE FLIGHT PLAN. Nobody likes to be called by the FAA late in the evening or at night while you are tucked in bed to make sure you made it home from the airport. There are several embarrassing excuses that are

made up by pilots who forgot, were distracted, or were too busy to close their flight plan. Because of this mistake and the resulting embarrassment, a pilot may never file a VFR flight plan again. What follows is what happens when your flight plan does not get closed for any particular reason.

Once you activate your flight plan, the time that you listed under BLOCK 10, Estimated Time Enroute, of the FAA Flight Plan Form is used to determine your ETA (estimated time of arrival). If 30 minutes have elapsed since your ETA at your destination airport, your aircraft is considered overdue, and search and rescue (SAR) procedures are instigated. At that point your destination's FSS is responsible for locating your aircraft. The first action that is taken is to send a QALQ message to every FAA facility at an airport where you may have landed. (A QALQ message is a request for information concerning the overdue aircraft.) In addition, this message is also sent back to your departure's FSS as well as every Air Route Traffic Control Center (ARTCC) within the area. Any facility that receives a QALQ must briefly check with every controller and examine recent flight strips to determine whether any contact has been made with the overdue aircraft. Each of these facilities is required to answer the QALQ request, even if no contact has been made with your aircraft.

If the replies to the QALQ request are all negative—meaning that no FAA facility in the nearby area has located your aircraft or 30 minutes have passed since the transmission of the QALQ—the destination FSS transmits an information request (INREQ) to the departure FSS, to every flight watch FSS along your route of flight, to other FSS's or ARTCC's along your route of flight, and to the Air Force Rescue Coordination Center (AFRCC) located at Langley AFB, Virginia. On receipt of an INREQ message, every facility begins a check of facility records to determine whether radio contact was made with your aircraft. At the conclusion of these checks, a reply message is transmitted to the destination FSS describing the results of the search.

If the replies to the INREQ are negative or one hour after the transmission of the INREQ message, the destination FSS transmits an alert notice (ALNOT) to every FAA facility within 50 miles of your aircraft's proposed route of flight. These facilities then conduct a communications search of every airport within their immediate vicinity. In most cases, the airport manager, FBO, or operator is telephoned, and this individual conducts a visual search of the airport property. This is also called a ramp search. If no one can be contacted at the airport, local law enforcement personnel are requested to check for your aircraft. In addition, flight service stations and air traffic control facilities within the area transmit a request over the appropriate frequencies asking every airborne aircraft to monitor the emergency frequency (121.5 MHz, 243.0 MHz, or 406 MHz) and listen for emergency communications or a transmission from the emergency locator transmitter (ELT) on board your aircraft.

If an hour has elapsed since the original ALNOT transmission, the destination FSS contacts the AFRCC and provides all the pertinent information about your flight to the RCC officer. If your aircraft has not been located by this time, the U.S. Air Force assumes complete responsibility for locating your aircraft and may initiate a ground and air search for your aircraft utilizing the Civil Air Patrol.

If by now you still have decided that filing a VFR flight plan is not worth your pain and agony, utilizing the air traffic control system to receive VFR traffic advisories and flight following are strongly encouraged. They may not have all your necessary information for search and rescue operations, but at least, if you do decide to make a forced landing, they have a good idea of where you might have landed and can reduce the amount of time that it takes to find you.

More and more fatal flights, where search and rescue operations are being conducted, end up becoming just search missions because the pilot neglected to file a flight plan or receive flight following from ATC. These services are provided to you at no cost should you decide to slow down, take a minute, and use them. Overall it can mean the difference between life or death and comfort to you and your families.

+

Mr. Applegate is an Air Traffic Controller at Detroit Willow Run Airport, an Aviation Safety Counselor for the Detroit FSDO, and a search and rescue pilot for the Civil Air Patrol.

To Enter "B" or Not to Enter "B"...

Many pilots assume that VFR "flight following" offers more ATC services than it does. A general aviation pilot reports entering Class B airspace without a clearance, after mistakenly believing that VFR flight following service would provide the necessary clearance.

I requested flight following as I proceeded direct to XYZ. I was given a code and radar identification was confirmed. I was on a heading of 180 degrees, when the controller asked me, "Where are you going?" I confirmed XYZ and then he told me I was not cleared into the Class B airspace and I should turn left to 150 degrees. I expected since I was requesting flight following and I was in radar contact, if the controller had not given me a Class B clearance, he would have vectored me around the area or told me to stay clear of Class B until advised.

VFR flight following provides traffic advisories, not clearances or traffic separation, and only as controller workload permits. Pilots are responsible for monitoring their position and making a timely request for clearance into the Class B area. Often, the controller providing traffic advisories can coordinate the issuance of a clearance upon request from the pilot.

In the next incident, ATC was trying to provide advisories, but an apparent malfunction in the aircraft radio interfered with the controller's efforts, nearly putting the reporter in harm's way.

In cruise, using VFR flight following, flying direct to a fix using LORAN, I inadvertently flew into an active Restricted Area. I had the volume on the radio turned low, although I believe it was still at an audible level. After not hearing radio chatter for a while, I called Center and was informed that I was in a hot Restricted Area. Center said they had been trying to contact me but had been unable. I did experience several other problems with reception on that radio, and wound up using [the #2 radio].

I climbed to 11,500 feet to get out of the area. I had become complacent about following my position on the charts, knowing that Center would help keep me clear of Restricted Areas. I should have tracked my position more closely without relying on ATC.

The reporter used LORAN as the primary navigation source, and relied on ATC for "back-up." Making full use of all resources, including charts and other navigational aids, will help keep pilots out of "hot" areas.

This report appeared in NASA's Aviation Safety Reporting System's (ASRS) Callback.

Big Deal!

by Bill O'Brien

It was 0846 on a Tuesday morning in early October. I was sequestered in my DC cubicle of power trying half-heartedly to tease some common sense out of some meaningless wall charts that were left over from the previous day's "brain storming session." I was pondering an extraordinarily well thought out half-baked idea, when it happened. I got my first irate phone call of the day.

After the obligatory, "Hello, how are you?" we exchanged names and my caller told me that he was a GA mechanic who works in northern California. I immediately did the time zone math and came up with three hours difference. Out of habit, honed by experience, I hastily picked up my pen and found some notepaper and was ready to copy because deep in my bones I knew this call was important.

How so? I will bet you a dollar to a donut that no mechanic in any time zone has ever gotten up at 0546, just to call a bureaucrat in Washington and tell me what a fine job the FAA is doing. So I sat there, pen in hand, patiently waiting for the bomb to be dropped.

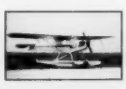
It wasn't long in coming. "Mr. O'Brien, I got a bone to pick with you." He voiced his complaint in a slow, steady controlled voice that could only be uttered through clenched teeth. His issue was that the FAA was allowing pilots to work on their own airplanes at a GA airport that will remain nameless. He claimed a lot of this illegal work was done in the owners' hangars on the weekends behind closed doors.

His main gripe was the work the pilots were doing was not only the preventive maintenance called out in appendix A of FAR Part 43, but everything else including engine swaps, sheet metal work, radio and STC installations, or whatever else you can imagine. I told him that I would contact the local flight standards district office (FSDO) and ask them to step up the weekend surveillance work at the airport. Also, I told him I would recommend to the FSDO's Aviation Safety Program manager to give some aviation safety programs on the privileges and limitations of pilot-performed maintenance.

I told him if nothing positive happened in a month, then he had the right to call me back and give me hell. He seemed satisfied with this telephone pact with a DC devil, and we parted on good terms.

While I waited for the West Coast to go to work, I began thinking about pilot-performed maintenance. There are two major problems that are always occurring. The first is the pilot usually does not have the proper tools, the current data, or the expertise to do the job. The second problem is that pilots rarely make a maintenance entry in the aircraft's log book even though it is required by the regulations.

Now pilot/owners reading this



always will say what's the Big Deal! "It's my airplane; it's my hide on the line," or "I know what I can do or not!" and "Why sign a logbook and give the Feds the rope to hang me." My response is: Regulations and workmanship aside, the Big Deal is what happens to the people you leave behind. When there is an accident, especially a fatal one, and maintenance is determined to be a factor, the FAA inspector performing the accident investigation always goes to the last entry in the logbook. Many times the last entry was an annual inspection, up to six or seven months before the accident. In addition, the aircraft could have 50 to 60 additional hours on the Hobbs meter.

Now imagine if you will, you are working in your hangar and a Fed shows up, takes you aside, and quietly tells you that an airplane you worked on six months ago was involved in a fatal accident. While that bit of horrifying news is slowly sinking in, the FAA inspector then asks you if he/she could see the work order for the aircraft in question.

Despite a well-deserved reputation mechanics have for being stoic individuals in a very demanding career field, when the work order is handed over, no mechanic has ever failed to ask me in a low, strained voice, "Do you know what went wrong?" I usually can't answer him right away. I heard his question just fine, but it's the haunted eyes that steal my attention. Those eyes are screaming at me, "Did I make a mistake? Did I kill those people?"

Many times with the help of eyewitnesses, I garnered enough facts to indicate that the pilot did perform additional maintenance on the aircraft. But since the pilot never recorded anything in the logbook, we never know what work was actually done. So we have an unknown. Other times the investigation determined that the aircraft was operated for a considerable number of hours so the accident might be caused by an operational incident like a hard landing, high G loading, or damage caused by something as simple as hangar rash on a wing. So the triggering factor that caused maintenance-related failure could have happened long before the accident, but again we are not sure, so we put it down as another unknown.

These are worst case accident scenarios, the unknowns. It's bad because the mechanic is left with a nagging doubt that he or she could have killed those people, could have made that fatal mistake, might be responsible. Mechanics, who experienced this ongoing nightmare, tell me that this cold feeling of "maybe it was my fault" never goes away. The worry lies just below the conscience level of thought, but always making its presence known by robbing oneself of inner peace. Other mechanics have told me the uncertainty is like an old troubling memory, poorly hidden somewhere in the back of one's mind.

But even the deepest buried, scabbed over, nagging doubt can come roaring back into one's life when the memory is triggered by a visual cue. It can happen as simply as looking over one's shoulder and seeing a similar make and model aircraft as the fatal taxi up to the hangar door. These flashbacks give a mechanic a small taste of hell, and hell, my friends, is a thing to avoid. And that is why, pilots, mechanics consider it a Big Deal that pilots who work on aircraft should follow the rules and record that work.

So, in the interest of safety and my sworn duty to explain and defend the Federal Aviation Regulations, I have developed the handout on the following pages that explains to pilots what they can and can't do when they hold a wrench in their hands. All a mechanic has to do to become a partner with me in this pilot educational process is to hang this chart anywhere pilots gather, such as the airport restaurant or pilot lounge. If you are up for a walk on the wild side perhaps you can hand this chart out at FAA pilot safety meetings and answer maintenance questions at the same time. There is an outside chance that you might get some tough questions, but education is not a risk free business.

Just a final word to those mechanics who suffer from feelings of doubt similar to what I have just described. Be at peace, my friend. On this ball of dust we are not granted the power to change the past, but we can influence the future. Talk to other mechanics or friends or a counselor about what you feel, get it off your chest. But if you feel uncomfortable about talking about this to your friends or peers, give me a call. Just say when I pick up the phone that you want to talk about a Big Deal. I will not ask for your name or where you are calling from, it will be a conversation between two mechanics who have shared a similar experience.

Bill O'Brien is an Airworthiness Aviation Safety Inspector in Flight Standards at FAA headquarters in Washington, DC. He can be reached at (202) 267-3796.

ATTENTION PILOTS

Here is the definitive word on the regulations which permit pilot to perform maintenance.

For aircraft operated under FAR Part 91 with a FAA Standard Airworthiness Certificate:

1. Private pilots or higher are permitted by Part 43 (Maintenance, Preventive Maintenance, Rebuilding, and Alterations) section 43.3(g) of the Federal Aviation Regulations to only perform "preventive" maintenance on any aircraft owned by or operated by that pilot and not used under Parts 121, 127, 129, and 135.

2. Part 1 defines "Preventive Maintenance" as simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

3. Thirty-two preventive maintenance job functions are identified in appendix A of Part 43.

4. Pilots, like mechanics, are required to be trained to perform the preventive maintenance tasks before accomplishing the tasks alone.

5. Private pilots or higher are required by section 43.7 to approve an aircraft for return to service after preventive maintenance is performed.

6. The approval for return to service logbook entry for preventive maintenance must have the following information to comply with section 43.9:
   - Date of completion of work
   - Description of work performed
   - Data used to perform the work
   - Signature and certificate number of the pilot approving the aircraft for return to service. Sample entry should read as follows:

Powerplant Logbook for Swiftfire 200 N2195T

November 30, 2000, Tach 2445.7 hours.
Drained oil and replaced with 8 quarts of (name brand of oil). Removed oil filter and replaced with a new (name brand of) oil filter and safetied. Cleaned spark plugs and regapped and installed new spark plug gaskets. Spark plugs installed using recommended torque. Spark plug leads secured. Replaced air filter with a new (name brand of) filter. All work done in accordance with current Swiftfire 200, and (name engine make and model) current maintenance and parts manuals. Operational run-up and leak check okay.

Patrick Poteen, Private Pilot
Certificate #180359122

7. The pilot's name and certificate number constitutes an "approval for return to service statement" only for the preventive maintenance work performed. [ref: section 43.13(a(4)]

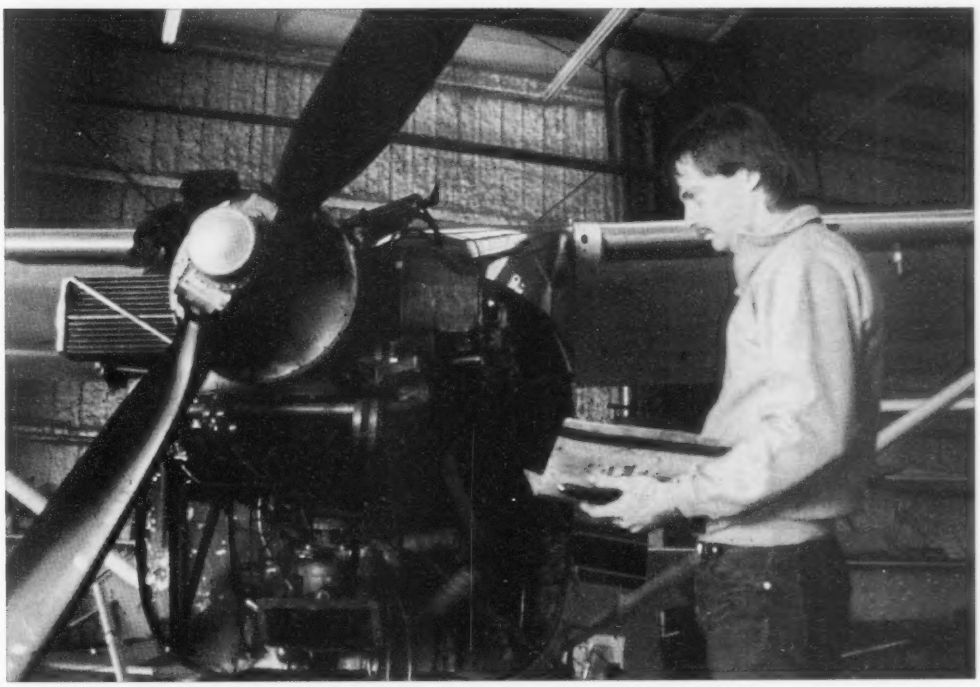
8. The performance standard for quality of work the pilot must meet is found in section 43.12, Performance rules. The standards are:
    - Use the methods, techniques, and practices found in the current manufacturer's maintenance manual or instructions for continued airworthiness.
    - Use the recommended tools, equipment, and test equipment to accomplish the work in accordance with standard industry practices.
    - If special tools are required to perform a task, then that tool or its equivalent must be used to accomplish that task.
    - The work performed must be of such a quality that the condition of the part worked on is equal to the original or properly altered condition.

NOTES:

The pilot is required by section 21.303 of the Federal Aviation Regulations to use replacement parts produced by the manufacturer or parts produced under a Parts Manufacturer Approval (PMA) or Technical Standard Order (TSO). The pilot can also use standard aviation parts such as aircraft hardware, safety wire, etc. Do not use automotive or marine parts because these are considered suspected unapproved parts and once installed on your aircraft the airworthiness certificate may not be valid.

There is one other rule in Part 43 that is argumentatively the most important rule in the entire part. The rule is section 43.12 (Maintenance records, falsification, reproduction, or alteration). Paraphrasing the rule language, the rule prohibits any individual from making a fraudulent or intentionally false entry in any required aircraft maintenance record. The rule also prohibits the alteration or reproduction of aviation records for fraudulent purpose. If a pilot is found guilty of violating section 43.12, his/her pilot certificate can be suspended or revoked by the FAA.

Any questions? Please contact your nearest FSDO or call Bill O'Brien at (202) 267-3796.



Hazardous Chemicals in the Aviation Workplace

by Flight Safety Foundation Editorial Staff

Editor's Note:

The following article is being reprinted with permission from the Flight Safety Foundation's July-August 1997 "Aviation Mechanics Bulletin." The information is being provided as a general overview of some of the chemicals aviation workers may be exposed to while working on or around aircraft. By printing the article, FAA Aviation News *magazine makes no claims as to the accuracy of the information, terminology used, or the statements made in the article. The important role FAA and the U.S. Occupational Safety and Health Administration (OSHA) play in the workplace are not addressed in the article.* FAA Aviation News *is printing the article to remind everyone that each person has a responsibility for his or her own safety when working with any type of chemical on or around an aircraft. Each worker needs to know, understand, and follow the safety issues and safe handling procedures published for using any type of chemical. This article is a reminder of that responsibility.*

Aviation maintenance facilities use a number of substances containing chemicals that regulatory agencies have labeled as toxic. These include solvents, cleaning agents, hydraulic fluids, coolants, and fuels.

Inappropriate exposure to or ingestion of toxic substances may lead to illness or injury, ranging from short-term effects such as headache, shortness of breath, and dizziness to paralysis, kidney failure, cardiovascular disease, blindness, respiratory ailments, and even death.

Reactions to a particular chemical may vary, depending on the duration of exposure, dosage, personal factors (for example, those who are asthmatic, have heart trouble, or smoke tobacco), type of exposure (by breathing or physical contact), whether exposure was to more than one chemical, and how quickly and effectively action is taken to counteract the toxin's effects. Among the most widely encountered hazardous chemicals in aviation maintenance facilities are acetone, ammonia, asbestos, carbon monoxide, chlorofluorocarbon 113 (CFC-113), ethylene glycol, methylene chloride, and methyl ethyl ketone (MEK). Below is a brief description of each of these chemicals, along with general symptoms from exposure and first-aid action.

As a general rule, prompt professional medical attention should be obtained any time a person is inappropriately exposed to a hazardous chemical. Workers should not wear contact lenses when working with hazardous chemicals; where appropriate, goggles, face masks, and respirators should be worn to reduce the probability of exposure or inhalation.

Acetone

Acetone is a clear, colorless, volatile liquid with a sweet odor. It is used as a solvent in many aviation applications. Individual products may refer to acetone as dimethyl ketone, methyl ketone, 2-propane, or beta-ketopropane. Upon exposure, acetone enters the bloodstream and is circulated throughout the body. Limited exposure is generally not injurious because the liver is capable of turning small amounts of acetone into harmless byproducts. Larger concentrations are more serious. Breathing moderate to high levels of acetone for even a short time can cause nose, throat, lung, and eye irritation; shortening of the female menstrual cycle; headaches; light-headedness; confusion; increased pulse rate; nausea; vomiting; unconsciousness; and coma. Physical contact with acetone does not cause skin cancer; no determination has been made if breathing acetone for long periods will lead to other forms of cancer.

Medical tests (breath, blood, or urine samples) to confirm exposure to acetone are available, but these tests must be performed within two days after exposure because acetone is

naturally flushed from the body after that time.

Acetone First Aid

- Eyes: If acetone comes in contact with the eyes, they should be irrigated immediately with large amounts of water, occasionally lifting the lower and upper lids to further remove the chemical.
- Skin: Skin contaminated with acetone should be washed immediately with soap and water. If clothing has become contaminated with acetone, the clothing should be removed and the skin underneath should be washed with soap and water.
- Inhalation: A person who has inhaled acetone vapor should be moved immediately into fresh air. If breathing has stopped, mouth-to-mouth resuscitation should be performed. The affected person should be kept warm and at rest, and medical attention obtained immediately.
- Ingestion: Immediate medical attention should be obtained.

Ammonia

Ammonia is used in the aviation industry as a cleaning agent, particularly in fuel cells. Its noxious fumes, which can be severe eye irritants should provide a warning of exposure. When inhaled, ammonia irritates the mouth, nose, throat, and lungs. Continued exposure by breathing can lead to headaches, loss of the sense of smell, and vomiting. The most severe effect of ammonia inhalation is a buildup of fluid in the lungs that can lead to suffocation and death.

A person exposed to high levels of ammonia should be kept under observation by medical personnel for at least three days, because the buildup of fluid in the lungs might cause a delayed reaction.

Skin contact with ammonia causes burns, the severity of which depends on the concentration of the ammonia solution, the moisture content of the skin, and the length of time that passes before the area is flushed with water.

Ammonia reacts violently with, and should be stored away from, strong oxidizers, chlorine, bromine, acids, gold, silver, calcium, and hypochlorite bleaches.

Ammonia First Aid

- Eyes: If ammonia contacts the eyes, they should be irrigated immediately with water for 15 minutes, holding the eyelids open and away from the eyeballs. Speed and thoroughness are very important.
- Skin: Skin contaminated with ammonia should immediately be flushed with water. If ammonia penetrates the clothing, it should be removed and the skin underneath should be flushed with water. Ointment should not be applied to ammonia burns; burned areas should not be rubbed.
- Inhalation: A person who breathes large amounts of ammonia should be moved immediately into fresh air. If breathing has stopped, mouth-to-mouth resuscitation should be performed. Oxygen may be administered. The affected person should be kept warm and at rest.
- Ingestion: Vomiting should not be induced. A glass of milk or water should be given to the affected person to drink.

If symptoms of exposure to ammonia persist, immediate medical attention should be sought.

Asbestos

Asbestos, which primarily affects the lungs, may be found in aviation brake linings, electrical insulation, and friction components. It is classified as a carcinogen. Few or no symptoms are evident at the time of exposure. Asbestosis, a disease that manifests as scarring of the lungs and shortness of breath upon exertion, may not appear for seven to 30 years after exposure. The risk of lung cancer for tobacco smokers who have been exposed to asbestos is 92 times higher than for smokers who have not been exposed.

In the United States and in other countries, there are several requirements for the handling and storage of asbestos, including:

1. Advanced training must be provided for personnel who are to handle asbestos;
2. A regulated, marked, enclosed, isolated area must be established for asbestos storage and handling;
3. The asbestos must be kept wet with special surfactant and water while handling; and
4. Local exhaust ventilation with negative pressure air filtration and high-efficiency particulate filters must be used in areas of asbestos removal.

Asbestos First Aid

Because there are virtually no symptoms evident at the time of exposure to asbestos, there are no first aid recommendations.

Nevertheless, certain preventive and surveillance measures should be taken in the aviation workplace. Care should be used in handling components containing asbestos. Where materials containing asbestos are present, periodic sampling and analysis for airborne asbestos should be conducted to ensure that particulate levels remain within safe minimums.

Carbon Monoxide

Carbon monoxide (CO) has been described as one of the most common industrial hazards and is also a danger to those in aviation maintenance. The U.S. National Institute of Occupational Safety and Health (NIOSH) reports that several workers have died in or near refueling trucks as a result of CO poisoning.

When inhaled, CO takes the place

of oxygen in the bloodstream, reducing the supply of oxygen to the body's cells. CO is colorless, odorless and tasteless, properties that make it particularly difficult to detect.

One of the characteristic signs of CO poisoning is a cherry-red color of the skin and lips. Any of the following symptoms can signal moderate CO poisoning: headaches, tightness across the chest, nausea, drowsiness, inattention, or fatigue. If exposure continues, a lack of coordination, weakness, or confusion may develop. Breathing high concentrations of CO can lead to unconsciousness, even before other symptoms are evident, and can kill in minutes.

Because CO remains in the blood for several days, a gradual increase in the level of CO in the body may occur. The health hazards of CO exposure are increased for individuals who smoke tobacco or have heart damage.

To reduce workers' exposure to CO while operating equipment, NIOSH recommends the use of diesel-powered equipment. A diesel engine generates less CO than a gasoline engine, and the strong odor of diesel exhaust provides a more pronounced warning of possible CO presence.

Also important is the proper maintenance of all vehicles to prevent CO from entering the cab while the engine is running. These measures include:

- Fit tight rubber boots around pedals and levers in the vehicle cab.
- Put snug-fitting grommets in holes through the firewall;
- Close rust holes in the cab floor pans or elsewhere;
- Ensure that heater and fresh air intakes are remote from the exhaust discharge;
- Check regularly for leaks in exhaust system components;
- Tighten or replace components to stop leaks; and,
- Provide vehicle cabs with continuous CO monitors, including alarms to warn operators before concentrations of CO reach dangerous levels.

Wiring a ventilation fan to operate whenever the engine is running will usually build positive pressure in a closed cab, minimizing in-seepage of CO. But NIOSH cautions that there are circumstances in which such an arrangement might draw CO into the vehicle. Workers in enclosed areas should be alert to ventilation problems, and, if CO poisoning is suspected, they should vacate the area immediately.

Carbon Monoxide First Aid

- In mild CO poisoning, half of the CO accumulated in the body will be eliminated in four hours or five hours of breathing CO-free air.
- A person who has inhaled large amounts of CO should be moved into fresh air at once. If breathing has stopped, mouth-to-mouth resuscitation should be performed. The affected person should be kept warm and at rest. In severe cases, the affected person should be given 100-percent oxygen to breathe.

Chlorofluorocarbon

Chlorofluorocarbon 113 (CFC-113) is used primarily in aircraft maintenance for cleaning of metals and electronic assemblies. Smaller quantities are used in aerosol propellants, coatings, adhesives, thermal stressing (to locate faulty components in failed electronic circuit boards), as a diluting agent, and as a lubricant carrier. CFC's are commonly referred to by the trade names Freon 113®, Genetron 113®, Halocarbon 113®, or Refrigerant 113®, or generically as 1,1,2 trichloro- 1,2,2 trifluoroethane fluorocarbons.

CFC's are noncombustible, colorless, nearly odorless, and have only slight irritant effects on the skin. CFC have a relatively low toxicity in low concentrations, which can create the misconception that CFC's are safe.

Symptoms of inhalation exposure to CFC include dizziness, light-headedness, and unconsciousness. Heavy concentrations can cause death by cardiac arrhythmia (irregular heartbeat) or asphyxiation in as little as one minute.

Training of maintenance personnel should include the hazards of working with CFC and should provide instruction on the use of supplied-air respirators (SAR) or a self-contained breathing apparatus (SCBA). There is no known antidote to CFC exposure nor are there any laboratory tests to confirm whether an individual has been exposed.

Asthmatics are particularly cautioned against CFC exposure. Taking epinephrine, norepinephrine, dopamine, isoporteranol, and medications containing catecholamines increases an asthmatic's risk of CFC poisoning. Exposure to CFC will also aggravate existing cardiovascular disease (involving the heart and blood vessels).

CFC are being phased out throughout the world as commercially practicable alternatives have been developed. Preventative workplace measures should include the provision of adequate ventilation and exhaust systems and the avoidance of CFC use in closed spaces.

CFC First Aid

- Eyes: If CFC come in contact with the eyes, the eyes should be irrigated immediately with water for at least 15 minutes, occasionally lifting the lower and upper lids.
- Skin: Contaminated skin should be washed with soap and water.
- Inhalation: The health hazard from inhalation of CFC's is acute. A person who has breathed a large amount of CFC's should be moved into fresh air at once. If breathing has stopped, mouth-to-mouth resuscitation should be performed. Oxygen should be given. The affected person should be kept warm and at rest. Immediate medical attention should be obtained.

- Ingestion: Ingestion is not considered a route of entry for CFC's.

Ethylene Glycol

Ethylene glycol is a colorless, slightly viscous liquid with a mild odor. It is used mainly as a coolant and aircraft deicing agent, but is also found in paints and hydraulic fluids. Ethylene glycol is not an inhalation hazard, unless it is heated and vapors form; it is not toxic, unless it is ingested.

There are three stages of toxic exposure to ethylene glycol. Stage I occurs up to 12 hours after exposure; the individual may appear inebriated, drowsy, dizzy, or unable to coordinate voluntary muscle movements. Stage II occurs 12 hours to 24 hours after exposure and can lead to heart arrhythmia or congestive heart failure. In Stage III, which begins 24 hours after exposure, kidney failure is a possible outcome.

Ethylene Glycol First Aid

- Eyes: If ethylene glycol contacts the eyes, they should immediately be irrigated with large amounts of water, occasionally lifting the lower and upper lids.
- Skin: Skin contaminated with ethylene glycol should immediately be flushed with water. If ethylene glycol penetrates the clothing, it should be removed and the skin underneath flushed with water.
- Inhalation: A person who breathes large amounts of ethylene glycol vapors should be moved into fresh air at once. If breathing has stopped, mouth-to-mouth resuscitation should be performed. The affected person should be kept warm and at rest.
- Ingestion: Immediate medical attention should be obtained.

Fuels

Jet fuel (kerosene) and aviation gasoline may not appear to pose major medical problems. Nevertheless, the cleaning of closed, unventilated fuel tanks can expose an individual (through inhalation) to concentrated levels of fumes. Reactions include slurred speech, blurred vision, headache, drowsiness, and dizziness. In the most severe cases, long-term exposure to jet fuel or aviation gas vapors has caused deaths from suffocation.

Fuels First Aid

- Eyes: If fuel contacts the eyes, they should immediately be irrigated with large amounts of water, occasionally lifting the lower and upper lids.
- Skin: Skin contaminated with fuel should immediately be flushed with water. If liquid fuel penetrates the clothing, it should be removed and the skin underneath flushed with water.
- Inhalation: A person who breathes large amounts of fuel fumes should be moved to fresh air at once. If breathing has stopped, mouth-to-mouth resuscitation should be performed. The affected person should be kept warm and at rest.
- Ingestion: Immediate medical attention should be obtained,

Methylene Chloride

Methylene chloride is used as a solvent in paint strippers and degreasing agents, as a propellant in aerosols and in metal cleaning and finishing. A colorless liquid with a mild sweet odor, it is also known as dichloromethane. Upon skin contact, methylene chloride causes intense burning and mild skin redness.

People differ in their ability to smell methylene chloride, so it is possible to be unknowingly exposed. Symptoms of low exposure are slightly impaired hearing and vision. At higher levels of exposure, methylene chloride acts like an anesthetic, reducing one's ability to remain steady or perform tasks that require precise hand movements. Other symptoms of severe exposure include dizziness, nausea, tingling, and numbness in the fingers and toes. In most cases, these effects stop shortly after exposure ends. Methylene chloride is a carcinogen, and smokers are at increased risk to the effects of exposure to methylene chloride.

Methylene Chloride First Aid

- Eyes: If methylene chloride contacts the eyes, the eyes should immediately be irrigated with water for at least 15 minutes, occasionally lifting the lower and upper lids.
- Skin: Skin exposed to methylene chloride should promptly be washed with soap and water. If the methylene chloride penetrates the clothing, it should be removed and the skin underneath washed with soap and water.
- Inhalation: A person who has inhaled large amounts of methylene chloride should be moved into fresh air at once. If breathing has stopped, mouth-to-mouth resuscitation should be performed. The affected person should be kept warm and at rest.
- Ingestion: Immediate medical attention should be obtained.

Methylethyl Ketone

Methylethyl ketone (MEK) is used in aviation maintenance facilities as a solvent, primarily in paints and glues. The EPA has labeled it the "single most widely used hazardous air pollutant in aerospace applications." Nevertheless, it is not considered particularly toxic unless there is exposure to a very high concentration for an extended period. Also known as 2-butanone, MEK is a colorless, flammable liquid with a sharp, sweet odor that is similar to that of acetone.

In the aviation industry, the most common exposure to MEK is by breathing its fumes, which cause mild irritation to the eyes, nose, and

throat. Skin contact can lead to drying, scaling, and cracking. Mild exposure may also manifest in headache, dizziness, incoordination, nausea, and vomiting. High levels of exposure to MEK, though not common, can cause depression of the central nervous system, coma, and death. MEK has not been classified as a human carcinogen.

MEK First Aid

- Eyes: If MEK contacts the eyes, the eyes should immediately be irrigated with water for at least 15 minutes, occasionally lifting the lower and upper lids.
- Skin: Skin contaminated with MEK should be washed promptly with soap and water. If MEK penetrates the clothing, the clothing should be removed and the skin underneath washed with soap and water.
- Inhalation: A person who has inhaled a large amount of MEK should be moved into fresh air at once. If the person is unconscious, cardiopulmonary resuscitation (CPR) may be necessary. Oxygen may also be given.
- Ingestion: The affected person should be given two glasses of water to drink, with an emetic (an agent that induces vomiting), if possible. Liquids should not be given if the affected person is unconscious.

Those who work in maintenance facilities servicing agricultural aircraft should also be aware of the hazards of pesticides and insecticides. General information on handling and storage of these chemicals is also provided by special interest groups such as the American Crop Protection Association.

Many other hazardous chemicals are found in the aviation maintenance workplace. These include, but are not limited to, cadmium, chromium, cyanide, lead, mercury, phenol, phosphoric acid, trichloroethylene, tricresylphosphate (TCP), sulfuric acid, tetrachloroethylene, toluene, toluene diisocyanate, and xylene.

In the United States, the U.S. Occupational Safety and Health Administration (OSHA) requires manufacturers of toxic chemicals to issue a material safety data sheet (MSDS) for each chemical. The MSDS describes first aid, storage, handling, transportation, firefighting, and spill and disposal procedures for that chemical.

OSHA's Hazard Communication Standard (HCS) requires that manufacturers, importers, or distributors of hazardous chemicals or products supply a copy of the appropriate MSDS to their customers. MSDS are to be provided automatically, and it is the responsibility of the producers and importers of the material—not the persons who receive their products—to make the hazard determination. Further, the supplier is required to update the MSDS with the next shipment, if new and significant information about the hazards of a particular chemical have come to light.

The HCS directs the employer to maintain copies of the MSDS for each hazardous chemical or product. It also requires that MSDS be readily accessible to employees in their work areas. These MSDS may be maintained on computer, microfiche, or other alternatives to paper copies as long as there are no barriers to immediate employee access.

OSHA says that the HCS "covers chemicals in all physical forms—liquids, solids, gases, vapors, fumes, and mists—whether they are 'contained' or not. The hazardous nature of the chemical and the potential for exposure are the factors that determine whether a chemical is covered [by the HCS]." If it is not hazardous or if there is no potential for exposure, the chemical is not covered by HCS.

In the United States, proper employee access to the current MSDS for each chemical in the workplace is a critical step in HCS compliance. The company should have a written program that:

- Designates a person responsible for obtaining and maintaining the MSDS;
- Describes how employees can obtain access to the MSDS when employees are in their work areas;
- Describes how the MSDS are to be maintained (in notebooks or in a computer terminal);
- Outlines procedures to follow when MSDS are not received at the time of the first shipment; and,
- Describes alternatives to MSDS in the workplace.

The HCS says that employees "who may be 'exposed' to hazardous chemicals when working must be provided information and training prior to their initial assignments...and whenever the hazard changes." Exposure can be through any route of entry (inhalation, ingestion, skin contact, eye contact).

It is the responsibility of OSHA compliance officers to determine "if [the employees] have received training, if they know [whether] they are exposed to hazardous chemicals, and if they know where to obtain substance-specific information on labels and MSDS," according to OSHA.

The following checklist will help an organization determine whether it is in compliance with HCS directives. The organization should have:

- Obtained a copy of the rules from HCS;
- Read and understood the requirements;
- Assigned responsibility for tasks;
- Prepared an inventory of chemicals;
- Ensured that containers are labeled;
- Obtained the MSDS for each chemical;
- Made MSDS available to workers;
- Conducted training of workers;
- Prepared a written program;
- Established procedures to maintain a current program; and
- Established procedures to evaluate the program's effectiveness.

Cessna Fatal Spin Accident

Based upon a fatal Canadian spin training accident, the FAA's Aircraft Certification Office (ACO) in Wichita, KS, asked that the following article be published. The ACO coordinated this information with Canadian Aviation Authorities. It is being published without editing by the FAA Aviation News *staff.*

This report was submitted for publication by the FAA Aircraft Certification Office, ACE-118W, located in Wichita, Kansas.

Alert to owner/operators of Cessna Model 150 and 152 series airplanes manufactured after 1966:

In 1998, a Cessna Model 152 was involved in a fatal stall/spin accident. A flight instructor and student pilot were performing a spin maneuver and were unable to recover. When the aircraft involved in the accident was inspected, investigators found the rudder to be jammed. During a 50-hour check the day before the accident, the right pedal rudder bar return spring and its lever arm were found to be broken. These broken pieces of the rudder control system were removed without replacement. On completion of the 50-hour checks, the airplane was returned to service with no reference to the outstanding defect recorded in the logbook.

Accident investigators, after examining the accident aircraft and other 152's (swept-tail 150's have the same design of rudder control system), have determined that, under certain conditions, it is possible to jam the rudder past its normal travel limit. The jam occurs when the stop plate on the rudder horn is forced aft of the stop bolt head. The forward edge of the stop plate can then become lodged under the head of the stop bolt causing the rudder to jam in this over-travel position. The rudder control system includes right and left pedal rudder bar return springs, which maintain tension on the rudder cables. Accident investigators believe that the missing rudder pedal return spring, in addition to extreme rudder pedal inputs, contributed to the conditions that allowed the rudder to jam. Recovery from a spin may not be possible with the rudder jammed beyond the normal rudder travel stop limits.

To prevent reoccurrence of the rudder jamming in this way, the Cessna Aircraft company is currently in the process of investigating possible design changes to the rudder stops. *[Editor's Note: As off-the-shelf parts would not do what they needed, Cessna was forced to design new parts and expects to have them in stock and a Service Bulletin issued to the field by January 2001.]*

With or without these design changes, operators/maintenance personnel should be aware of the importance of maintaining integrity of the rudder control system, including the pedal return springs. A number of important items to keep in mind while inspecting the rudder control system are:

- The condition of the rudder structure (no damage or distortion—especially in the area of rudder horn attachment).

- The condition of the rudder horn (A number of in service rudder horns have been found bent or distorted, thus not allowing the stop plate to contact the stop bolt head squarely or allowing the stop plate to contact the side of the tailcone structure above or below the stop bolts).

- The condition of the rudder pedals and rudder pedal torque tubes. Check for free movement of the rudder pedals, and verify there is no interference of the pedals, torque tube cable arms, and the return spring arm with the surrounding structure or other control system components (the accident aircraft showed signs of rudder cable attachment bolt interference with the adjacent aileron cable pulley).

- The condition of the rudder horn stop plate. The stop plate should contact the stop bolt head squarely. The lip at the forward edge of the stop plate should not contact the stop bolt head prior to contact with the contact face of the plate. Ensure the integrity of the stop plate lip.

- Correct rigging of the rudder control system, including:

  - Proper adjustment of the rudder travel stop bolts.
  - Correct adjustment of rudder cable length (to provide correct rudder pedal position and correct cable tension through return spring tension).
  - Proper nose gear steering tube (bungee) length

As described above, even small deviations can contribute to tragedy.

The complete Transportation Safety Board of Canada (TSB) safety report is available on the Internet at <www.tsb.gc.ca/ENG/REPORTS/AIR/1998/a98q0114/ea98q0114.html>. The TSB's report number is A98Q0114. The date of the accident was July 18, 1998. ✣

A Long Time Ago

by Patricia Mattison

Once upon a time, a long time ago, there was a pilot who had just received a shiny new commercial pilot certificate. The ink was still wet on that certificate, when the pilot and a couple of friends decided to take a trip for business and pleasure. Plans for the trip included a sight seeing venture over the Grand Canyon with a stop at the town of Tusayan at the canyon's rim. That was the business part of the trip.

The aircraft of choice was a Piper *Cherokee* which the new commercial pilot owned. It was more than adequate and comfortable for the three of them and overnight baggage on board. The airplane had been on a lease back arrangement and was in dire need of a little tender loving care, so a wash and wax job was in order. The attitude indicator gyro had been acting up showing a 10 degree turn to the left, even on level ground, and the number two radio, both nav and com, worked when they felt like it. Aside from those two discrepancies, for a VFR flight the airplane was good to go. The pilot was not instrument rated yet and so had to remain VFR anyway.

It was winter—January, as a matter of fact—and weather along the route, at the destination, and for the return the next day was going to be spectacular—cold and clear. Spirits were high when the pilot and friends loaded the baggage compartment. Conversation was all about the adventure before them. And so the trip began.

The afternoon flight departed from Southern California. A purposeful act designed to allow the friends to observe the glory of a sunset at the Grand Canyon: The absolute pristine look of snow on the rim and the blaze of color as the sunset changed the Canyon from dirt and rock to a veritable rainbow of color. A sight to behold, and what better way to start out a New Year?

The flight to the Canyon went as planned. No bumps, no weather to contend with, just all around beautiful. The pilot had a business in Tusayan and needed to check out the bookkeeping. One of the friends was soon to be a pilot and came along for the experience. As a matter of fact, the student pilot's check ride was going to take place the following week. The other friend had an interview with a prospective employer in Tusayan. As soon as the airplane was on the ground and after checking into the hotel, business was conducted. After all, that's why the trip occurred in the first place.

The next morning, the flight home was planned over breakfast. Both the commercial pilot and the almost pilot friend (APF for ease in writing) did the planning and worked the math for the return trip. The day began to look a bit cloudy, and soon an overcast took the place of scattered clouds. Both the pilot and APF had called the Prescott flight service station (FSS) earlier that morning.

It was low overcast at the time of the call, but it became obvious that Prescott had not called Tusayan for weather information. According to FSS at Prescott, any weather that was on the way to Tusayan was not supposed to arrive until much later that afternoon. The canyon has been known to create a lot of its own weather and so the pilot decided to wait it out and try again later in the day. Then it snowed. That was Sunday.

On Sunday at the canyon, everything—what little there is of it—closed up tighter than a drum, and so they waited and talked and visited and walked and ate until the day was over. Now it was Monday; a carbon copy of the first as was Tuesday. By Wednesday, spouses back home were getting a little more than concerned. As a matter of fact, they were getting down right ornery.

Questions such as, "When are you coming home?" "How long must you wait?" "Why did you go?" were asked every time a call was made to a respective home. At this point even the major air carriers had not been able to get into the airport. So the choice of taking a trip home on a big bird was not an option. Finally, the decision was made to return the next day — no matter what.

By Thursday morning, the snow had stopped. The canyon had a white blanket of snow that gave the area a dreamlike quality. It was beautiful, made even more so by the fact the sun was shining. The pilot called the Prescott FSS at six o'clock in the morning to get weather. The good news was that the weather was going to remain the same until later in the afternoon when it would start up right where it left off on Wednesday. So after a rushed packing job and an even more rushed breakfast, the trio set out for the airport with the intention of leaving that morning for home.

Arriving at the airport the pilot looked for the key to the airplane, where it had been placed several days ago, in the pocket of a well-worn jacket reserved for flying. It wasn't there. Nor was it in any of the baggage. Nor in the car used while at the canyon. So a return trip was made to the hotel to see if it had been overlooked. Nope, not there either. Pockets were searched again and again. Purses dumped out all to no avail. Back to the airplane to see if the key

had been dropped. No joy. One more look in the jacket pocket and—lo and behold—there was the key. Whew, a sign of relief came from the trio. Now to preflight and file the flight plan.

The pilot had not filed a flight plan earlier, thinking that the job could be done after the preflight. However, by then the phone lines were busy to Prescott FSS. It was now about 10 o'clock. "To heck with it," thought the pilot, "I'll file inflight." So the baggage was loaded and the anxious group climbed aboard the airplane for the trip home.

"Clear," shouted the pilot and, turning the key, tried to start the engine. A pitiful sound emitted from the engine, rather like a groan, followed by a whimper. "Try again," thought the pilot. This time it was weaker still. It would hardly turn over at all. So the pilot had a friend turn the prop to loosen the oil, then tried again to start the airplane. Finally after much coaxing and about a half an hour of trying, the little engine finally fired up. Cold, thick California oil at the below freezing canyon hadn't helped the situation.

The runway was covered with snow at the non-towered airport, but the taxiway had been plowed and was being used as a runway. The airport was at 6,606 feet and the air was cold. Actually, it was below freezing. The plan was to fly to Prescott; and then to Phoenix, where it was warm, to have lunch with some friends; then on to California. And, of course to file a flight plan as soon as Prescott could be reached by radio.

Immediately after the airplane rotated into the cold air, the door popped open with a blast of freezing air. "What next," said the pilot. "I'll go around and land and close the door." The pilot had taken off the ubiquitous jacket and put it into the baggage compartment, now the door was open and it was cold and windy in the airplane.

"No, let's not," said the APF, "let's go to Prescott and land there to close the door." The pilot agreed, albeit reluctantly, as the APF stuffed a jacket in the door and held the door as closed as possible. The pilot had decided to level off at 7,500 feet because the clouds were at 10,000 feet and the terrain was going to drop off as they approached Prescott.

Looking towards Prescott, after leveling off, a strange sight came into view. "What's that ahead," asked the pilot of the APF.

"I don't know," said the APF. "I've never seen anything like it before, I don't know what to think of that. Maybe it's blowing dust or something."

The rolling cloud appeared to be approaching the canyon from the south. "I think I'll forget going to Prescott and return to Grand Canyon Airport," the pilot decided.

"Why don't you turn toward Peach Springs VOR and we'll go to Kingman and close the door," offered the APF.

It looked clear, but overcast, off toward the Kingman area. No snow or anything, so the pilot turned toward the Peach Springs VOR. It was a really low overcast along the route. The clouds seemed to be descending even further.

"It's sure getting dark. I think we're returning to Grand Canyon," said the pilot. Just as the pilot began a turn toward the Canyon, there was a flake of snow, followed by a few more. Then the sky opened up and, faster than you can imagine, visibility went to zero.

The pilot leveled the airplane's wings after a moment of panic and tried to think of what to do next. Consider the chain of events so far, if you will. No flight plan was filed so nobody knew where they were. The door was open; snow and wind were blowing in making the cockpit a severely cold nightmare. No winter survival gear was on board, not even heavy jackets, and, to top it all off, the pilot had no instrument rating. Even if the pilot had an instrument rating, the airplanes instruments were not all that they were supposed to be—only one nav/com radio and an attitude indicator that lied.

The APF is saying in a small voice, "Just go straight ahead, this is probably only a snow squall." The surrounding territory in that area was mountainous, of this the pilot was quite sure. The pilot had made this trip many times before and was intimately aware of the terrain surrounding the canyon.

Plotting their position on the chart placed them precariously close to those mountains. On the top of the mountains were enormous high-tension power lines that supplied power to Flagstaff from Lake Mead. By now you are probably wondering what the rear seat passenger is doing all this time. Aside from questioning if living for much longer was an option, the passenger was looking down at the trees, which were rapidly rising to meet the airplane's belly.

The little airplane had a covering of ice that had accumulated so quickly it seemed impossible. Ice on the prop was breaking off hitting the tail with a terrible clatter. Because of the weight of the snow and the loss of lift on the wings, maintaining altitude was beginning to be a problem.

Ice and snow covered the windows, all except for a small space at the pilot's side window and a circle on the front windscreen where the heater/defroster cleared the ice. Not being able to see very far down the wings, the pilot realized that there was probably an ice accumulation. Hoping that the wing wouldn't stall, the pilot started a shallow turn to the left to return toward Grand Canyon and away from the mountains.

Just as the pilot began to bank left, a momentary clearing revealed the mountain peak with power lines at eye level less than a city block away—imminent disaster straight ahead.

"What are you doing?" shouted the APF, "You can go ahead and get out of this." Obviously, the APF had not seen the mountains or the power lines. With that said the APF began to change the only good radio to Flagstaff, which was behind several thousand foot high mountains.

"Keep your hands off my radios," shouted the pilot, "I'm going to declare a mayday."

"Don't shout at me," scowled the

APF. "If you call a mayday we'll get into trouble."

"We're already in trouble," said the pilot in a trembling voice. "Now we need help."

With a sarcastic tone the APF said "Boy! You're scared, aren't you."

"No," said the pilot, "I'm not scared, I'm terrified."

The rear seat passenger, who up until now had been eerily quiet said, "I think you had better try to get some altitude. There is a tree below with a squirrel in a branch that has a flea on its back."

About that time the treetops began to brush the tires of the little airplane. The pilot could see down a bit, but not ahead at all. Below the airplane was a dirt road that sliced through the forest. A slight turn to the left placed the airplane over the road and away from the trees, at least for the moment.

"I can land on the road if I have to," determined the pilot. "We would be safe, but cold. What if I misjudge and crash? We will all freeze to death if we survive," the pilot thought. "No one knows where we are. I have to do something to get us out of this mess I gotten us into."

Tuning the only good radio to 121.5 in hopes of reaching Prescott FSS, the pilot attempted contact to declare their plight. "Mayday, mayday, mayday," the distraught pilot announced into the microphone. "Cherokee 1234A mayday." No answer.

Again the pilot repeated the mayday, only to be answered by silence. The pilot recalled that a flight instructor had said that if you are low, too low to be received by FSS, to try to transmit through the nearest VOR. The pilot had tuned in the Grand Canyon VOR and was tracking inbound on the 045 degree radial. The pilot repeated the mayday call again using the Prescott radio and Grand Canyon VOR frequency.

"Cherokee 1234A, state your emergency," said the blessedly calm voice.

"Cherokee 1234A is at 7,000 feet on the 045 degree radial of Grand Canyon VOR in IMC conditions. We have ice accumulation and are not sure that we can make it back to Tusayan Airport."

"Roger, Cherokee 1234A, contact LA Center on frequency...."

Dialing up the frequency, the last thing in the pilot's mind was getting in trouble. To the contrary, it was getting out of the trouble they were in at the moment.

"LA Center, this is Cherokee 1234A."

"Cherokee 1234A, state your present position and altitude."

"Cherokee 1234A is almost to Supai Canyon inbound on Grand Canyon 045 degree radial, at 7,000 feet, but I'm having trouble maintaining altitude."

"Cherokee 1234A Squawk 7700 and ident."

"You are right where you thought you were," said the controller. "Continue on present heading, you should break out of the snow in about ten minutes. Once you are in the clear the airport should be directly ahead of you."

The pilot acknowledged the transmission with a thankful reply.

Head turned toward the window, the APF had been very quiet for the past few minutes. The rear seat passenger had not mumbled a word since the statement about the squirrel. The tip end of Supai Canyon passed below the wing as the plane flew towards safe haven. The wind was really blowing from the south at altitude—all four hundred feet of it—as the little plane crabbed into the wind to maintain the radial.

Then as suddenly as it began, the sky was clear over the airport and a ray of sunshine beamed down on the runway. The pilot thought, "This is really very dramatic. I wonder when the music from 'The High and Mighty' begins."

Calling LA Center the pilot reported field in sight and the reply was, "Well done. Now, after you land, someone in Prescott FSS wants to talk to you."

All's well that ends well. Situations like this start with a small link to a chain that, if a link were broken early on, need not lead to a potential accident. The pilot and friends got a serious case of get-home-itis. The pilot allowed the APF to influence the outcome of the flight by not exercising pilot in command responsibility. At the first indication of trouble—the door coming open—the pilot should have turned back. If that action had occurred, the pilot would have seen the approaching storm and stayed on the ground.

When the approaching roll cloud of snow was seen and if it had been recognized for what it was, the pilot should have turned back to the airport.

At the first indication of snow, while approaching Peach Springs VOR, the pilot should have turned back. The only thing that did have some bearing on the fact that the trio didn't perish was that the pilot had knowledge of the terrain and had an idea of where they were in space. Then, the pilot called " mayday," despite what the APF—who didn't have a clue—said about getting in trouble. When in doubt, get help.

After landing at the airport the pilot had the urge to get down on bent knee and kiss the snowy ground. After tying the aircraft down and calling Prescott FSS for a serious discussion, the trio bought tickets home on a commercial air carrier—the first into Tusiyan in almost a week. Seems that the big boys are pretty smart folks.

The pilot received a stern talking to from the local FSDO's Accident Prevention Specialist the next week and was asked to write a letter describing the whole story to the FAA. (Yes, we know they are Safety Program Managers now, but we did begin this article with a long time ago.) Bet that the pilot didn't let a similar situation happen again. Live and learn they say—the important word is learn. Living in this case was just because of pure luck and a little help from friends at ATC and FSS.

Patricia Mattison is the Safety Program Manager at the Juneau (AK) Flight Standards District Office.

Depression: A Recoverable Stall

by Glenn R. Stoutt, Jr., M.D.

First, the bad news is that depression is now so common that it is called "the common cold of psychiatry." Between 10 and 20 million people in our privileged and affluent country suffer from it to the degree that they need treatment. Suffer is surely the proper word. One man in ten and one in four women will be affected (afflicted) by it at some time during their lifetime.

Depression covers a huge spectrum. It does not just refer to the days when we feel "blue," have the "blahs," or "down in the dumps." Everyone has days like this. The question to ask in evaluating depression is, "What is the degree of impairment in one's life that depression is causing?"

The American Psychiatric Association has clearly defined some of the cluster of symptoms that occur in clinical depression (the type that definitely needs treatment) and major depression (one so severe that the patient may have to be hospitalized and certainly has difficulty carrying on even a fairly normal life):

- Feeling depressed most of the day, starting on awakening. Worse in the morning; gets better as the day goes on. The feeling of depression may be overwhelming, disabling, dominating, and devastating.
- Loss of interest in activities that usually cause enjoyment (the ten-dollar word is anhedonia, or lack of fun). Social withdrawal.
- Tearful.
- Fatigue, loss of energy.
- Change in sleep patterns. Trouble in falling asleep. Waking up early two or more hours in the morning and not being able to get back to sleep. Sometimes wanting to sleep or lie down most of the day.
- Pervasive feelings of sadness and grief, maybe leading to a feeling of helplessness. If it progresses to hopelessness, suicide is a major threat. If the patient mentions suicide, consider it a psychiatric emergency. Get help—fast. Suicide is the eighth cause of death in adults and is number three in adolescents and young adults, both boys and girls.
- Noticeable change of appetite, usually decreased, with some resulting weight loss.
- Irritability (this, more than sadness, is the major symptom in children and adolescents.).
- Feelings of undeserved guilt, worthlessness, or sinfulness.
- Inability to concentrate or think clearly.
- Indecisiveness.
- Illogical thought patterns and misinterpretation of reality.
- All sorts of physical symptoms can be caused by depression: headaches, stomachaches, and backaches (the big three).
- Sometimes there is agitation, pacing the floor, inability to sit still. This is called agitated depression.

Another category, called Dysthymic Disorder ("Depression Lite"), is used to describe people who do not have major depressive symptoms, but who seem to have been mildly depressed all their life, in a low-level funk. They might not even recognize it. ("I've always been this way.") But their family and friends note that they never have much fun or excitement, and always seem "down."

Most of us have a happiness set point just as we have a set point in weight or basal metabolism (the least amount of energy required to maintain vital functions in an organism at complete rest). But, things can add up until we have "too much on our emotional plate." Just as an aircraft can stall from too great an angle of attack, too little power, too heavy a load, a person can develop a "mental stall." Most of our mood pattern and definitely our tendency toward depression is hereditary. But, regardless of this, loss of a loved one, loss of a job, financial problems, divorce, illness, alcoholism and drug abuse, unhappy marriages, and nowhere jobs can push a person into depression. This type of depression is called Exogenous Depression (caused from outside factors), whereas Endogenous Depression (from internal causes) is probably inherited, probably chemical in nature, and often unavoidable (but not untreatable). Endogenous depression may suddenly develop for no apparent reason.

Think of the brain as a skull-enclosed, three-pound, electrochemical analog computer. This leads us to some of...

The Good News

Depression is not only the most common mental disorder but also the most treatable with an 80-90 percent success rate. The foundation of all treatment is a combination of psychotherapy (talk therapy) and psychopharmacology—both complement each other.

Psychopharmacology is the new wave of psychiatry. One of the newer texts contains over 500 pages de-

scribing some of the medications used in treating mental disorders.

The most common medications used today to treat depression—we all know someone on them—are the Selective Serotonin Reuptake Inhibitors (SSRIs). Serotonin is a chemical the brain needs for maintaining a good mood—SSRIs keep the level from being depleted. Prozac, Zoloft, and Paxil are among the most prescribed SSRIs. The FAA does not presently certify persons who use mood-altering medication. The reasoning is twofold: the underlying condition that requires the medication and the potential adverse side effects from the medication itself. The good news is that the FAA is willing to return virtually all clinically depressed pilots back to flying after successful treatment.

If depression seems likely, or even if you are just not enjoying your life as you used to, seek out a therapist whom you like and develop a therapeutic alliance. (True story: "My psychiatrist is great, but she's an awfully hard person to talk to.") You cannot analyze or intellectualize your problems away alone or even see them objectively—seek a mental-health professional.

Four Ways to Strengthen Your Defenses

1. *Avoid booze.* Alcohol abuse is probably just an attempt at self-medicating feelings of depression. Alcohol always makes depression worse. It is used not so much to feel good as it is to avoid feeling bad. Many depressed people with hangovers jump out of hotel windows on Sunday mornings. Avoid it.
2. *Exercise more.* All studies positively stress the use of exercise. Exercise releases endorphins—the body's joy juice. It is probably responsible for the "runners' high." Large-muscle activity (thighs) may help discharge feelings of pent-up frustration, anger, and hostility. (Anger turned inwardly is a major cause of fatigue and depression.) The downside of this wonderfully effective treatment is that most depressed people just don't have the energy or motivation to get up and exercise.
3. *Forgive yourself.* Don't try to be perfect. Remember that there are more than six billion people on Earth, and hundreds of thousands of them can do even better what you do best.
4. *Open up more.* Men just don't want to admit of anything that takes away from the macho image. Depression is thought of as a wimp disorder. Men may just tough it out until the Smith & Wesson cure seems the only solution. Harvard Medical School psychologist Dr. William Pollack said, "Men are limited pretty much to a menu of three strong feelings: rage, triumph, and lust. Anything else and you risk being seen as a sissy." Men (pilots?) have a tendency to self-destruct. The Macho Marlboro Man would do better to open his feelings up, show some intimacy, and admit that things are not going well for him. Women outlive us by an average of seven years. Some of this may be not only from estrogen, but also from a willingness to talk intimately to friends about problems—even to admit that they have problems.

Humor! Our Emotional Parachute

"Sense of humor is a measurement of the extent to which you realize that you are trapped in a world almost totally devoid of reason. Laughter is how you release the anxiety you feel about this."-Dave Barry

Joy is defined in all dictionaries, but tells us nothing about what it really is. If you want to know what pure fun, joy and happiness are, just watch a young Labrador retriever play in the field for an hour, running for the hell of it, chasing leaves and butterflies, and then come running to you when you call, shaking all over, slobbering and licking your face. Unconditional love; dogs don't carry grudges.

A criminal was sentenced to 20 years. He said, "Judge there's no way I can do 20 years!" The judge looked down for a couple of seconds and said, "Well, just do the best you can."

Do the best you can and try to have more fun in your life. If you find no humor in things—can't laugh (especially at yourself) and enjoy life—remember that you can usually find the right answer if you ask the right person. This person is probably a competent mental-health professional. In the meantime, spend a lot of time with people who love you, your family and good friends.

Yours for good mental and physical health and safe flying,

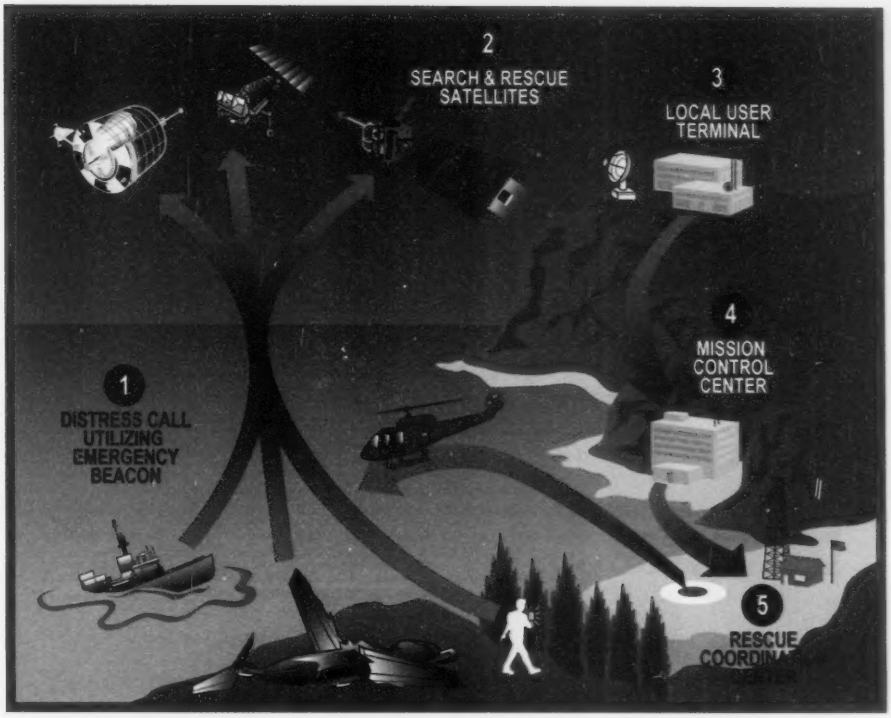
+

Dr. Stoutt is a partner in the Springs Pediatrics and Aviation Medicine Clinic, Louisville, KY, and has been an active AME since 1960. No longer an active pilot, he once held a commercial pilot's license with instrument, multiengine, and CFI ratings.

Note: The views and recommendations made in this article are those of the author and not necessarily those of the Federal Aviation Administration.

This article originally appeared in the Summer 2000 The Federal Air Surgeon's Medical Bulletin.

TERMINATION OF 121.5 MHz ELT MONITORING ANNOUNCED



by H. Dean Chamberlain

It is official. The U.S. Department of Commerce has announced the termination date of the satellite-based monitoring of 121.5/243 MHz distress alerts. The date is February 1, 2009.

What does the announcement mean to the vast majority of aircraft owners and operators? At the moment, nothing. The hundred plus thousand aircraft owners who currently have 121.5 MHz emergency locator transmitters (ELT) installed will not, until the termination date, see any difference in SAR services provided by the National Oceanic and Atmospheric Administration (NOAA), the United States Air Force (USAF), and the United States Coast Guard (USCG). As background, NOAA operates the U.S. portion of the Cospas-Sarsat system in the United States with NASA support. The USAF and USCG maintain the United States Rescue Coordination Centers (RCC) which coordinate the actual SAR activities. However, after the termination date, aircraft owners will have to make an informed decision as outlined below.

Currently, there are aircraft that are not required by regulation to have an ELT installed but which will have to install one in the near future. The reason is Congress mandated in Public Law 106-181, the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21), the equipage of certain types of turbojet-powered airplanes with ELT's. FAA is in the process of modifying the current ELT rule, FAR §91.207, to implement the new public law. Owners of turbojet-powered aircraft will have to review the effective dates of the new rule once issued and the specific requirements of the rule change.

Another category of aircraft owners who will have to make an informed decision are those buying new aircraft for operations that currently require an ELT and those aircraft owners who might have to replace their current 121.5 MHz ELT between now and 2009. The decision these owners will have to make is one that could possibly save their lives. At issue for these owners is do they install a cheap FAA approved 121.5 MHz ELT to meet the regulatory equipage requirement in their new aircraft, or, if they already own an aircraft, do they replace their current 121.5 MHz ELT with another cheap FAA approved 121.5 MHz ELT knowing that in 2009, they will lose satellite coverage?

The option is to install an FAA approved 406 MHz ELT. Although much more expensive, a 406 MHz ELT offers greater performance and benefits, and it will be the only one which will be received by the Cospas-Sarsat satellite system after February 1, 2009. More importantly, SAR authorities respond almost immediately to 406 MHz alerts. Another advantage of the 406 MHz ELT is that the satellite system provides near instantaneous alerting on 406 MHz.

The same is not true of the 121.5 MHz system.

The safety issue is that after the termination date, the only monitoring of 121.5 MHz ELT's will be ground-based by air traffic facilities or fixed-based operators with the capability to receive that frequency or by over-flying aircraft that might be monitoring that

frequency. If a 121.5 MHz ELT equipped aircraft crashes after the termination date, it could be days before anyone detects the 121.5 MHz ELT signal assuming the ELT survived the crash and is functioning as designed. Even today, it may take hours for a 121.5 MHz ELT crash alert to be taken seriously by NOAA and a Rescue Coordination Center because of the number of false alerts the Cospas-Sarsat System receives daily. Unless there is supporting data such as a reported missing aircraft or a flight plan that has not been closed, the RCC's wait for multiple satellite passes to verify that a 121.5 MHz alert is in fact a real alert.

One way VFR pilots can increase their chances of a rapid alert response today and after 2009, especially in aircraft equipped with 121.5 MHz ELT's, is to always file a flight plan. VFR flight plans, especially those with short route segment times, provide one of the best means of alerting SAR authorities in the event of an accident. Individual segment flight plans are better than filing one extended period flight plan when flying to multiple airports on a long, round-robin type of flight plan. The reason is air traffic only responds to overdue VFR flight plans. An aircraft that crashes off the end of the departure runway at the beginning of a flight on a long round robin type of flight will not be missed until the end of the filed flight plan estimated time of arrival which could be hours later. If the pilot had filed a segment flight plan, the aircraft would be declared missing much earlier.

An unclosed VFR flight plan beyond an aircraft's expected time of arrival also provides evidence to SAR authorities that a 121.5 MHz ELT alert along that route may in fact be an actual alert. This permits SAR forces to respond quicker than if the only evidence of a crash is an activated ELT. Plus the flight plan provides important rescue information, especially in the case of a 121.5 MHz ELT alert.

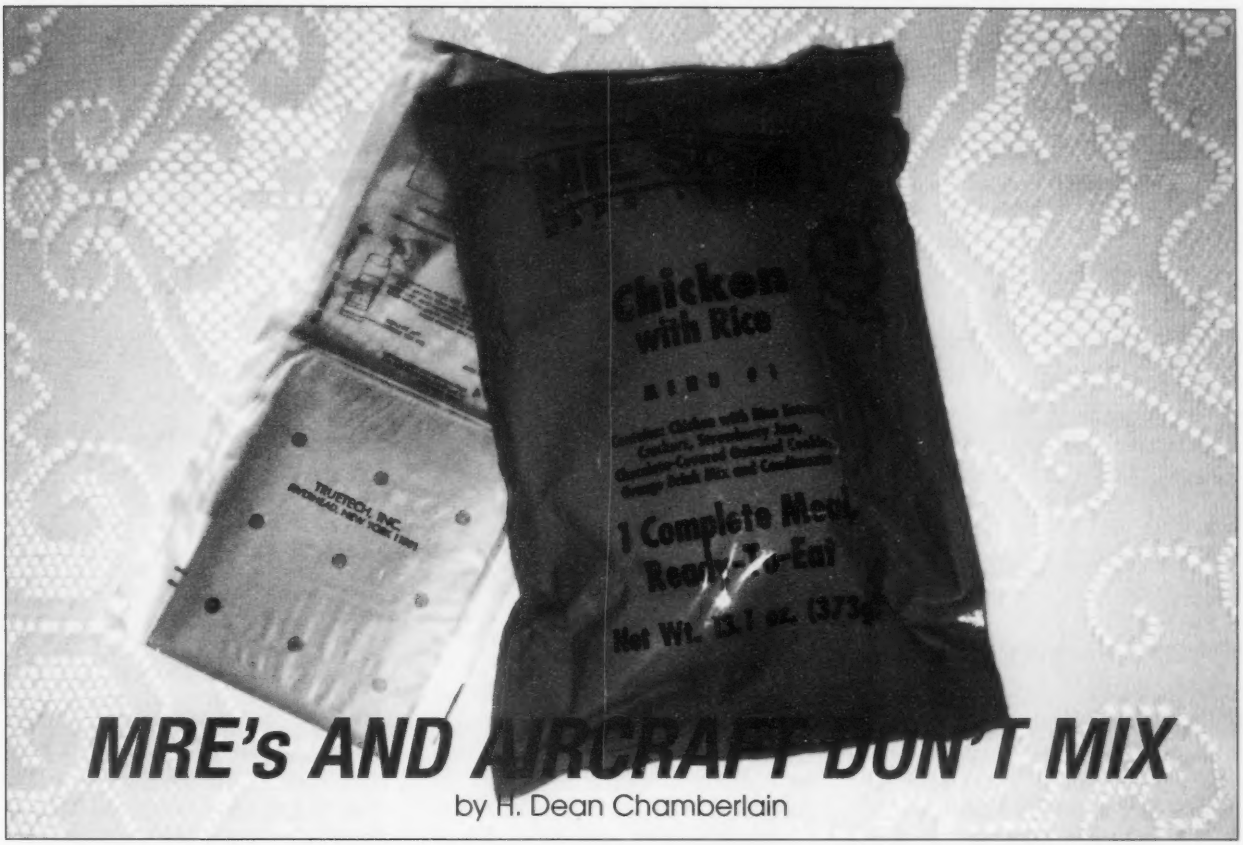
FAA permits the use of 121.5 MHz and 406 MHz ELT's to meet its regulatory requirement. The recent Congressional mandate changing the current regulation still permits the use of 121.5 MHz ELT's to meet the latest equipage requirement. FAA has no plans to mandate the installation of 406 MHz ELT's at this time. However, Congress could mandate the installation of 406 MHz ELT's in future legislation as many in the SAR community want. A stated goal of the SAR community is to eliminate the usage of all 121.5 MHz alerting devices on land, at sea, and in the air.

As a result of the Cospas-Sarsat system's decision to terminate the space-based monitoring of 121.5 MHz alert beacons, aircraft owners have to decide how they want to equip their aircraft. Do they continue to install 121.5 MHz ELT's knowing the risks they must accept in 2009, or do they upgrade to a 406 MHz ELT with all of its benefits?

It is your choice. The clock has started. February 1, 2009 is not that far away.

Why Space-Based 121.5 MHz ELT Monitoring Will Be Terminated

- Recommended by the International Maritime Organization and the International Civil Aviation Organization
- High rate of false alerts (more than 98% in U.S. alone) and impact on SAR resources locating false alerts
- The unprotected 121.5 MHz frequency was never intended for space-based monitoring and interference causes SAR problems and false alerts
- Crash-activated G switch can activate in rough turbulence and during hard landings
- Benefits of 406 MHz ELT
  - More transmitter power
  - Dedicated and protected emergency frequency
  - Near instantaneous satellite detection
  - More accurate location calculation in a smaller search area
  - Faster SAR response
  - Digital unit
  - Positioning data and owner data encoded
- Advantages of 406 MHz ELT to SAR
  - Owner or aircraft identification data encoded in unit allows easier resolution of false alerts and without expending SAR resources
  - Position data means more efficient use of SAR resources



Louise Oertly photo

MRE's AND AIRCRAFT DON'T MIX

by H. Dean Chamberlain

Just about the time you think you have heard it all, life manages to surprise you one more time. The most recent surprise was an article about a seemingly impossible event reported in the FAA-funded, NASA-managed Aviation Safety Reporting System (ASRS). According to the ASRS report's synopsis, the cabin crew of an airliner detected a burning plastic smell in the cabin. Later, they found out the smell was caused by a soldier who had cooked food he had brought on board the plane using a military Meal, Ready to Eat (MRE) chemical heating unit. The crew found the MRE heating package in the trash during a cabin cleanup. It had been stuffed in an airsick bag along with the trash from the meal. The person reporting the incident found the heating unit hot over an hour and a half after the person covered the unit with water and ice in a lavatory sink. According to the report, the soldier reported cooking other meals on aircraft in this manner.

Without knowing all of the details of the incident, I am familiar with the heating units contained in military Meals, Ready to Eat (MRE) rations. The water activated heating units are designed to heat an MRE to about 165 degrees Fahrenheit. Intended for field use, the heating units are designed to heat an MRE when no other means are available. They are not designed to heat an MRE, or whatever food the solder was heating, in flight in your average Mark 1 airliner.

Although airline food is notorious for its lack of taste and quality, one should not bring an MRE onboard to replace or supplement if you are planning on using the packaged MRE heater to heat the MRE. Cold MRE's are fine, but their chemical heating units are not appropriate to bring onboard.

With all of today's concerns about aircraft safety and security, anything that can cause a potential safety concern or pose any type of hazardous risk on an aircraft should be left at home. Regardless of what you think of airline food, please don't try cooking your own meal onboard. Years ago, a chartered airliner was destroyed by fire when a foreign passenger decided to make tea using a stove in the middle of an isle.

The same prohibition is true if you are a camper traveling to an outdoor camping site. Please make sure any of the gear you are traveling with is approved by the airline for carriage on the aircraft. Fuel containers, backpacking type stoves, and other fire starting materials all need to be cleared by airline security and hazardous materials specialists before they can be transported. In some cases, to paraphrase one U.S. Postal Service safety poster, some things were never meant to be flown in a passenger aircraft.

All passengers need to know the safety rules and abide by them regardless of what they might think of the onboard food. ✢

Photos courtesy of Tampa International Airport

Tampa International Airport

SUPER BOWL XXXV SPECIAL AIR TRAFFIC PROCEDURES

by H. Dean Chamberlain

Super Bowl XXXV will be played in Tampa, FL, on Sunday January 28, 2001. Although it is too early, when this is being written, to tell which football teams will be playing in the game, FAA will be one of the players monitoring the game. FAA has been planning for months on how to control the air traffic over and around the game to ensure the safety of those attending, those living in the vicinity of the Raymond James Stadium, and those onboard the aircraft. What makes this Super Bowl unique from an FAA prospective is that the stadium is located within the Tampa Class B surface area and only a few blocks from Tampa International Airport.

Now think of the many aircraft not only flying into the airport and other local airports with their distinguished guests onboard to watch the game, but of the many aircraft, airships, and helicopters that normally fly around such a major public sporting event towing banners or providing overhead camera shots for the TV networks. Add in the normal air traffic to Tampa International, and you can start to see the challenge facing FAA air traffic controllers and Flight Standards Service's aviation safety inspectors on game day.

Will the event generate as much total air traffic as say the annual Sun 'N Fun EAA Fly-in in nearby Lakeland? Probably not, but for those air traffic controllers working in Tampa on January 28, things could get busy as pilots planning on flying into Tampa or wanting to fly over or near the stadium start calling in. Patience may be the best teammate in Tampa that day.

CLASS B AIRSPACE AND SUPER BOWL XXXV

FAA has issued special air traffic procedures (SATP) for the period January 25-29 in Tampa. Special procedures will be in effect for helicopter operations at Tampa International Airport and St. Petersburg/Clearwater Airport, and for all aircraft operations in the vicinity of Raymond James Stadium.

All pilots planning on flying in the Tampa Bay area during this period need to review the published *Notice to Airmen* (NOTAM). Key provisions of the NOTAM include details on a slot reservation program for all domestic, nonscheduled IFR arrivals and departures to and from Tampa International Airport, St. Petersburg/Clearwater Airport, Albert Whitted Airport, Vandenberg Airport, Peter O'Knight Airport, and Clearwater Executive Airport.

A slot reservation will be required for all domestic, nonscheduled IFR arrivals starting on January 25 until January 28 from 0700-2300 hours EST each day.

The number of arrival slots is based upon airport and airspace capacity. There is no advantage in canceling IFR and proceeding VFR.

VFR arrivals should plan on extensive delays.

Slot reservations will be required for all domestic, nonscheduled IFR departures on January 28 from 0700 until 0300 EST the following morning and from 0700 until 1500 hours EST on January 29.

Slot reservations will be available beginning on Monday, January 22, at 0700 hours EST. Reservations will not be assigned more than 72 hours in advance.

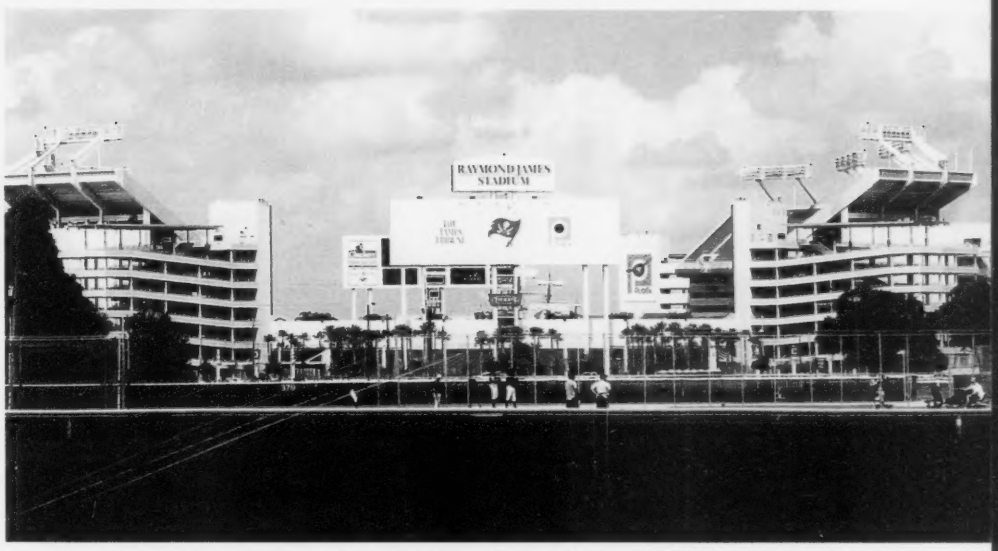
The NOTAM explains how to make the reservations, which can be

made either online at <www.fly.faa.gov> or by calling 800-875-9755.

Once a slot reservation has been made, a slot confirmation number will be issued. The slot confirmation number must be included in the remarks section of the flight plan. Pilots are expected to meet their flight plan arrival times within plus or minus 15 minutes.

A slot reservation confirmation number is no guarantee that aircraft parking is available, but the NOTAM contains information on how pilots can obtain parking.

Only in case of an emergency will air traffic modify its slot requirements.



Tampa Bay's Raymond James Stadium—home of Super Bowl XXXV is located within the Tampa Class B surface area. (H. Dean Chamberlain photo)

HELICOPTER OPERATIONS

No helicopter landings or departures will be permitted at or in the vicinity of Raymond James Stadium. All passenger shuttle and itinerant helicopters will have to use two temporary helicopter landing pads located at Tampa International Airport. The NOTAM provides information on special routing and operating procedures for helicopters flying into Tampa International Airport.

BANNER TOWING/ ADVERTISING/MEDIA AIRCRAFT OPERATIONS

For those wanting to operate in the vicinity of the Raymond James Stadium, the NOTAM contains information about what equipment they must have, the dates for the required safety briefing they must attend sponsored by air traffic control, and the special Aircraft Letter of Agreement they must sign before being permitted to operate within that area.

TEMPORARY TOWER

A temporary air traffic control tower will be established at Vandenberg Airport during this period. The NOTAM contains complete tower information and operating hours for all of the airports supporting the anticipated increase in aircraft into the Tampa Bay area. The NOTAM also contains complete post-game departure procedures.

LOCAL EVENTS ADD TO THE AIR TRAFFIC DURING SUPER BOWL WEEK

In addition to the Super Bowl, a major Tampa Bay annual celebration, Gasparilla Pirate Festival, has been rescheduled for Super Bowl Week to add to the festivities in the Tampa Bay area. What this means to pilots flying into the area is an increase in the traffic and types of aircraft flying in the area as well as various types of aircraft flying as part of Gasparilla. The Tampa Air Traffic Control Tower Letter to Airmen No. 00-07 issued on November 15 notes the expected increase in air traffic during this week in the Tampa Bay area as well as the increase in air traffic in the vicinity of the Peter O'Knight Airport and over Hillsborough Bay for the Gasparilla Pirate Festival Parade on Saturday, January 27. Included in the expected air traffic near the Peter O'Knight Airport and over flying the parade route are several large, high-speed military aircraft. The Tampa Air Traffic Control Tower Letter asks all pilots flying into and out of the Peter O'Knight Airport during the event to be extremely vigilant and to use caution. The Peter O'Knight Airport and the Gasparilla parade area are below the Tampa Class B airspace.

SAFETY IS NO ACCIDENT

Because of the number of aircraft expected in the Tampa Bay area during this period, all pilots should increase their awareness for other traffic both in the air and on the ground. Parking will be tight. Pilots should make parking reservations to ensure a space. Pilots of aircraft affected by the procedures outlined in the NOTAM should review and following the procedures in the NOTAM to minimize any delays encountered. VFR traffic can expect delays because of the volume of operations.

With the cooperation, support, and vigilance of all of the pilots flying into and out of the Tampa Bay area during this week, everyone will have a safe flight and for those attending the game, a chance to watch a great football game.

Keep the blue side up.

Overloading

Will an aircraft fly if it's overloaded? Of course it will. In fact, it's a way of life (or death) for too many pilots.

It's probably not hard to understand, once having discovered that an aircraft can fly overloaded, that there will be opportunities and temptations to do just that. Of course, the margin of safety is reduced.

The real problem? That "extra" passenger has more than just weight—he/she has a wallet. Of ten crashes recently reviewed, in which overloading and/or center of gravity limits were clearly identified, all but one were commercial flights. Six of the accidents were fatal. Here's a sampling of what other pilots have experienced, so please make a concentrated effort to ensure that you don't do the same.

- The pilot falsified the weight and balance sheet to indicate the aircraft was loaded within limits. With nine passengers on board, the light twin would not stay airborne and ran off the end of the runway.

- The float Cessna 172's load was a pilot and two passengers, small outboard motor, pack sack, fishing gear, and a day's abundant catch. It was asking too much of this aircraft, overloaded and with a 16-foot canoe tied to the float strut, to take off from the three-quarter mile lake. The pilot's luck didn't last because once airborne he couldn't coax it to clear the trees on the gently rising shore.

- Loaded for a cargo haul, the aircraft was ready to go when the operator got a last minute change to add four passengers. The three available seats were set up to accommodate, but a party of seven adults and a baby arrived with baggage and several cases of beer. One passenger climbed into the copilot seat while the three extras settled themselves at the back amongst the cargo. On takeoff the pilot struggled to lift the tail. Once airborne, the tail-heavy aircraft climbed steeply to 100 feet, stalled, and fell heavily to the runway. The center of gravity was dangerously beyond the aft limit.

- "After takeoff, the aircraft began porpoising mildly as if it were perched on a needle point. Its movements were large and hard to control. Suddenly, it dawned on me that the cargo had shifted aft on takeoff." Luckily this pilot was able to carry out a heart pounding safe landing with a center of gravity beyond the aft limit.

- The pilot of an overloaded float Twin Otter crashed trying to out climb a mountain after complying with the tour director's request for a low, circling look at a fish hatchery in a narrow valley. One of 18 occupants was killed and two seriously injured.

Whatever your aircraft type, it does have a certified maximum all-up weight. The engineers who designed it knew their aerodynamics. Any attempts to defy the aircraft's physical limitations are usually exercises in futility. Know your specific load. Ensure that it is distributed evenly and properly tied down. And don't succumb to customer pressure to stuff in that little extra bit for their convenience. That extra bit could cost you your life.

∓

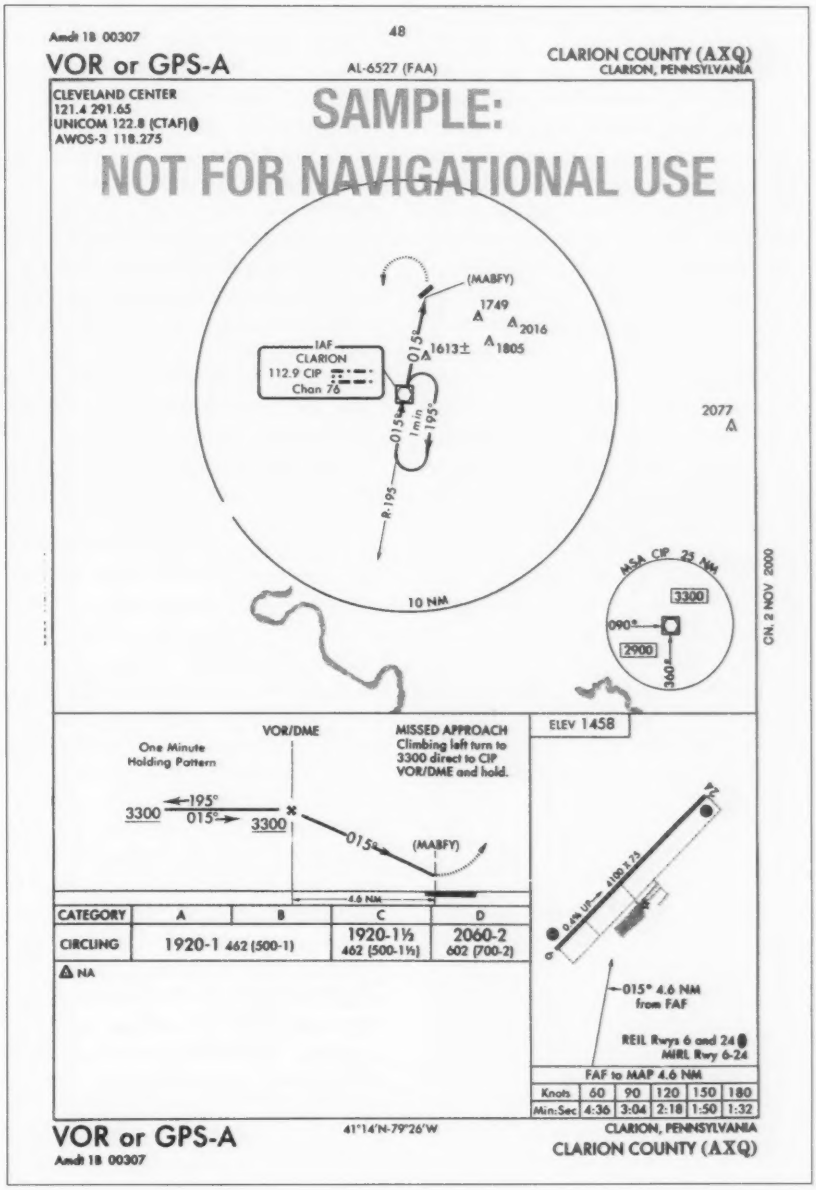
From the Transport Canada Aviation leaflet, Take Five for Safety.

• Remain Within 10 NM

I know that the procedure turn is rapidly disappearing in this new GPS era but may I please find out why the maximum procedure turn completion distance shown on NOAA/FAA instrument approach charts is 10 miles? Looking at all of the data that I can find on procedure turns, it appears from FAA studies in the past that quite a number of larger or high performance aircraft cannot complete a procedure turn within 10 miles of the fix unless the pilots are reminded to stay within 10 miles just before executing the procedure turn. Looking at TERPS it appears that the area protected for obstacle clearance is well in excess of 10 miles (up to about 17 miles) and, according to FAA Order 7030.1A, air traffic controllers are instructed to protect the same area to avoid other traffic in non-radar environments. It appears that someone has failed to realize that the area protected in TERPS was changed many years ago (way back in the 1950's or 1960's when I was too young to hold a pilot license) from a box and the procedure designers are still putting in a distance for the old standard which requires pilots to rush into procedure turns in higher performance aircraft if for no other reason then someone has decided that the chart should state 10 miles. This strikes me as being somewhat contradictory to the current view that pilots should be flying stabilized approaches to avoid CFIT accidents these days. Is there some other reason that I don't know about to restrict these turns to 10 miles or should they not be 17 miles as determined in past FAA studies?

References: 1) TERPS - Current Edition; 2) FAA Order 7030.1A "Protected Airspace for Instrument Approach Procedures" - March 27, 1969; 3) Project Report Project Number 68-460-7 "Procedure Turn Completion Distance" - Flight Standards Service, National Flight Inspection Division, Washington, DC June 1968; 4) Course Reversal Flight Simulator Evaluation - January 1968 Final Report - Flight Standards Service, Washington, DC; 5) TERPS - Third Edition - September 1, 1956; 6) TERPS Fourth Edition Proposed - Date Unknown

Clive Berryere (Pilot/Engineer)
Saint-Laurent, Quebec, Canada



The U.S. Terminal Procedures, Southwest Volume 1 of 2, published by NOAA/NOS contains the phrase "Remain within 10 NM" in the profile view of the NDB RWY 35 approach at Holyoke, Colorado. The Jeppesen approach depiction simply indicates "10 NM." In either case, what does this 10 NM limit for procedure turn

(PT) completion mean to the pilot flying the procedure?

First, the distance allowed for PT completion is a compromise between providing enough room for the pilot to fly a course reversal maneuver and limiting the amount of airspace which must be protected when an aircraft is cleared for the PT. This compromise limits the size of the PT to the minimum required. This is critical in congested airspace. The standard PT completion distance is 10 NM, but this may be reduced to five NM for procedures supporting only Category A aircraft or helicopters, and may be extended to 15 NM when operationally required and noted on the procedure.

During testing to determine what airspace to protect, the FAA asked pilots to fly PT's within the stated PT distance. The results of the testing showed that for various reasons, including winds, the aircraft actually went beyond the stated limitation. To account for this overshoot, the protected airspace recognized in the procedure design includes a buffer area to assure pilots who reasonably attempt to stay within the stated distance will not encounter other IFR aircraft or obstructions.

The pilot should use every navigational tool, including DME, to assure the aircraft remains within the published distance. The NDB RWY 35 approach at Holyoke is typical of many approaches with procedure turns where timing is the only means of distance determination. If ground speed estimates are incorrect, the buffer area is intended to provide adequate protection while the aircraft is at or above the PT completion altitude of 5,000 feet. The final approach area protecting descent to the minimum descent altitude of 4,240 feet begins at 10 NM from the PT fix/facility.

Pilots flying high performance aircraft need to constrain airspeed to assure completion of the PT within the specified distance. The Aeronautical Information Manual, *paragraph 5-48 a .2. states, "When the approach procedure involves a procedure turn, a maximum speed of not greater than 200 knots (IAS) should be observed from first overheading the course reversal IAF through the procedure turn maneuver to ensure containment within the obstruction clearance area."*

With the advent of the Global Positioning System, area navigation routes are replacing procedure turns, but PT's will be around for a long time yet. Instrument pilots must be aware of the charted procedure turn completion distance and maneuver their aircraft in such a manner to remain within that distance from the PT fix/facility.

FAA AVIATION NEWS welcomes comments. We may edit letters for style and/or length. If we have more than one letter on the same topic, we will select one representative letter to publish. Because of our publishing schedules, responses may not appear for several issues. We do not print anonymous letters, but we do withhold names or send personal replies upon request. Readers are reminded that questions dealing with immediate FAA operational issues should be referred to their local Flight Standards District Office or Air Traffic facility. Send letters to H. Dean Chamberlain, FORUM Editor, FAA AVIATION NEWS, AFS-805, 800 Independence Ave., SW, Washington, DC 20591, or FAX them to (202) 267-9463; e-mail address:

Dean.Chamberlain@faa.gov

• Addendum to Surface Tension

For your information, here are a few additional comments to the "Surface Tension, Part 2" article that appeared in the November/December issue.

Sectional charts now contain information on runways for which a right hand traffic pattern is used (e.g., "RP 23" indicating a right pattern for runway 23.) This is a fairly new feature of sectional charts and is very helpful.

Also, at non-towered airports, when pilots transmit their position or intentions, sometimes it not unusual to get no response. This can mean no one else is using the airport or that the aircraft's radios or audio panel has not been configured properly to transmit or receive. Confirm the audio panel and radio switch and frequency settings and get a radio-check if possible. This has been a common problem noted by pilots reporting non-towered surface transgressions to the Aviation Safety Reporting System (ASRS).

Mike Lenz
FAA
Runway Safety Program Staff

• The Hovering Airport

I read with interest "Safety Reminders? Canyon Calisthenics" in the September issue of *FAA Aviation News*. Of particular interest was "...an airport in the West whose elevation is almost 4,000 feet AGL." A very interesting concept!

George H. Urich
Canadaigua, NY

It's the new FAA concept to have more airports—the hovering airport. Obviously, it should have read "4,000 feet MSL." Thanks for the catch.

AVNEWS

AERONAUTICAL CHARTING NOW PART OF FAA

As of October 1, 2000, the former National Oceanic and Atmospheric Administration's (NOAA) Office of Aeronautical Charting and Cartography is now the FAA's National Aeronautical Charting Office (NACO). Organizationally located in the Air Traffic Services (ATS), Aviation System Standards (AVN), the redesignated NACO organization will remain in its current physical location and keep its current telephone numbers: 1-800-638-8972 or (301) 436-8301. The office is open Monday through Friday, 8 a.m. to 4:30 p.m. It is closed on Federal holidays.

The transfer from NOAA to FAA was legislated in the FAA Reauthorization Bill for FY 2000.

PASSENGER FACILITY CHARGE INCREASE START DATE

This announcement is of particular interest to anyone who uses airlines. The FAA has announced that April 1, 2001, would be the earliest start date for new $4 and $4.50 passenger facility charge (PFC) levels.

After thorough consultation with government and industry experts, FAA established the uniform industry-wide start date to give airline ticketing and computer reservations system providers time to implement reprogramming to accommodate the higher level.

"An earlier start date for PFC levels above $3 is not practical because existing airline ticketing and computer reservation systems must be reprogrammed to accommodate fractional dollar levels, higher PFC amounts, and other changes introduced by AIR-21," said Woodie Woodward, Acting Associate Administrator For Airports.

Once the required programming changes are made, industry also must conduct a testing and validation period to ensure that all programs function properly both independently and in relation to other domestic and international systems.

The April 1 date does not, however, preclude airports from immediately submitting PFC applications or amended applications requesting the authority to collect the higher PFC amount beginning on that date. The FAA will review and rule on applications in advance of the effective date.

These new PFC levels are authorized under the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21), signed into law on April 5, 2000. Prior to AIR-21, the highest authorized PFC level was $3 per enplaned revenue passenger.

Under the law both before and after enactment of AIR-21, PFC's are imposed based on the number of departures by the passenger, with a maximum imposition of two PFC's, for one-way flights and four PFC's for roundtrip itineraries.

DOCS ONLINE

The FAA's Civil Aeromedical Institute's (CAMI) website lists the names and pertinent data on all of its aviation medical examiners (AME). To find the name of an AME in your neighborhood, you can search CAMI's website at <www.cami.jccbi.gov>. Once you enter the website, select "Aeromedical Education" and then "Directory of Aviation Medical Examiners." You can search for AME's by name, country, region, state, county, city, and Zip Code.

FAA SAFETY FORUMS AT AMERICA ONLINE

The following is the 2001 proposed schedule of FAA aviation safety forums produced by FAA Aviation Safety Inspector and Safety Program Manager, Buz Massengale, from the Tampa Flight Standards District Office. Each Wednesday, Massengale holds his online safety meeting starting at 9:30 p.m. Eastern time. The meetings are held in the "Wright Hall" chatroom on America Online (AOL)™. For AOL ™ members, use the keyword "FLY" then enter the Wright Hall chatroom. The online meeting qualifies as a safety seminar under the FAA's "WINGS" program. For more details about the online safety meeting, you can contact the Tampa FSDO's website at <www.faa.gov/fsdo/tpa>.

2001 SCHEDULE

January 3	Accident Review 2000
January 17	PROPer Care
January 24	Cabin Heat Cautions
January 31	Checklists
February 7	High Altitude Operations
February 21	Private Pilot Certification
February 28	Aviation Trivia Contest
March 7	Altimetry: How High Am I?
March 14	The Dangerous CFI
March 21	Managing Your Fuel System
March 28	Spring Forth from Hibernation

NEW GOVERNMENT PUBLICATIONS

The Government Printing Office (GPO) has announced the availability of two publications from NASA. The first is *Astronautics and Aeronautics, 1991-1995: A Chronology*. The 779-page book's stock number is 033-000-01230-6. Its ISBN number is 0-16-050408-2. Its cost is $43 domestic ($53.75 foreign). The second book is titled *Hypersonics Before the Shuttle: A Concise History of the X-15 Research Airplane*. The 128-page book provides an Air Force view of the design, development, and operation of the X-15 including lessons learned. The stock number is 033-000-01227-6. Its ISBN number is 0-16-050363-9. The cost is $12 domestic ($15 foreign).

The books can be ordered from the Superintendent of Documents,

P.O. Box 371954, Pittsburgh, PA 15250-7954. The books can also be ordered online at <http://bookstore.gpo.gov>. Telephone orders can be called into (202) 512-1800 M-F from 7:30 am to 5 pm EST. The fax ordering number is (202) 512-2250. Prepayment is required by check, VISA, MasterCard, Discover/NOVUS, or GPO Deposit Account.

INAUGURAL GREAT LAKES AVIATION CONFERENCE AND TRADE SHOW

Aviation firms and individuals wanting to meet with pilots, air traffic controllers, mechanics, students, and other aviation enthusiasts—and all under one roof—will want to attend the first-ever Great Lakes International Aviation Conference in East Lansing, Michigan, January 26-28, 2001.

"This is an excellent opportunity to confer with the people who care about staying on top of the very latest equipment and techniques for assuring safe and effective air travel," said Michigan Department of Transportation (MDOT) Bureau of Aeronautics Director Bill Gehman. "We are pleased to partner with the state's aviation schools, the Federal Aviation Administration (FAA), Transport Canada, and Aircraft Technical Publishers to provide an impressive educational weekend that addresses every facet of the aviation community."

With a "New Technologies" theme, the weekend conference at Michigan State University's Kellogg Center will feature a broad array of speakers and topics. The format will include main speakers, breakouts, and several opportunities for aviation suppliers to interact with conference attendees on the very latest in aviation equipment and services.

Conference headliners include Scott Crossfield, the first person to fly at Mach 2 and Mach 3 speeds, and Ron Machado, popular aviation humorist and educator. Eight hours of aviation maintenance programs designed for airframe and power plant technicians and maintenance students will be offered, as well as demonstrations on computerized weather resources, the FAA Alaska Region's Capstone avionics training simulator and the Vertigon spatial disorientation machine. The conference is intended to draw a wide and diverse audience.

The conference supports an agreement between the FAA and MDOT's Bureau of Aeronautics to bring the aviation community together to promote operational safety and industry advancements. Tc that extent, Eastern Michigan University, Western Michigan University, Jackson Community College, Transport Canada, and the Detroit Aviation Safety Counselor Organization are joined in a collaborative effort with the FAA and MDOT Aeronautics to plan this conference.

For further information, contact Philip Tartalone at the Michigan Department of Transportation Bureau of Aeronautics by phone at (517) 335-9880 or by e-mail at <gliac@mdot.state.mi.us>. Information also is available via the Web at <www.mdot.state.mi.us/aero/gliac.htm>.

NO CHANGE IN NTSB 1999 GA ACCIDENT DATA

In October the National Transportation Safety Board reported no change in its preliminary 1999 general aviation accident (GA) data released in February. In that report, NTSB listed 628 GA fatalities vice 623 GA fatalities in 1998. The number of GA accident in 1999 was 1,908. In 1998, the number of GA accidents was 1,909. Fatal accidents dropped to 342 in 1999 from 365 in 1998.

The GA accident rate per 100,000 flight hours for 1999 was 7.05. In 1998, the GA accident rate was 7.12.

The complete NTSB 1999 accident report for all categories of aviation and modes of transportation can be found on the NTSB website at <http://www.ntsb.gov/aviation/Stats.htm>.

The complete aviation report is contained in NTSB press release SB-00/05 dated Feb. 25, 2000. The press release can be found on the NTSB website at <www.ntsb.gov>.

27th ANNUAL MIDWEST GENERAL AVIATION MAINTENANCE SEMINAR

The 27th Annual Midwest General Aviation Maintenance Seminar will be held February 21 and 22 at Lewis University located in Romeoville, Illinois. This free seminar offers training, exhibits, and demonstrations in the latest maintenance practices. It is an excellent opportunity for maintenance technicians, managers, and flight operations personnel to update their training and view the latest products offered in the field. Training classes meet FAA's annual inspection authorization renewal requirements.

The seminar is sponsored by Lewis University, the Illinois Department of Transportation's Division of Aeronautics, and the FAA. For more information contact Don Cramer or Kami Paine at (217) 785-8516.

SUBSCRIPTION PRICE INCREASE

The U.S. Government Printing Office has just informed us that they have increased the price of the *FAA Aviation News* magazine. The annual subscription price is now $28.00 domestic ($35.00 foreign)—an increase of $8.00 a year or 40%. We apologize to our readers for the inconvenience this may cause, but the FAA has no control on the pricing of the magazine. However, we do promise to continue to provide you with useful aviation safety information, as always.

Editor's Runway

from the pen of Phyllis-Anne Duncan

Over the Edge

Here I am at that juncture again where my art designer is bugging me for this column so that this issue can be sent to the printer, and I have 14 irons, unrelated to magazine production, in the proverbial fire. As of this writing, we still don't know who's going to be President for the next four years, which certainly outstrips my writer's block in the scheme of things.

Let's see, this morning I took a phone call from an irate training center manager (and rightly so) wanting to know why we hadn't approved his two core curricula. I went to a staff meeting and got tasked to analyze an issue, which doesn't even fall within the general aviation purview. There were phone calls about the previous day's midair between an F-16 and a C-172. A contractor was here interviewing employees so that we can come up with a listing of exactly what it is we do (nope, don't go there), and I missed a meeting that had been on my calendar for three weeks.

No, this is not some stiff-necked, DC bureaucratic whining. Actually, it is, but that's not the point of this. The point is, at about 1300 I realized that there were a couple of biological needs that I hadn't attended to, I was harried on what is normally a slow day (Friday), and I snapped at a secretary. A lot of things piled up at once, and I was completely distracted, my mind off in a dozen different directions, then the thought struck me—at least I'm on the ground. What if, after the day I'd had with all its frustrations, I'd decided to go flying? Probably not a good move on my part, but it got me to thinking about what it means to be ready to fly beyond the regulatory requirements for currency.

Of course, it takes a body that is healthy, but it also takes having your head in the game and your mind not pulled in different directions. And it takes feeling right about yourself in the world. In this issue, we have an article on depression, its symptoms and manifestations, and the treatment for it. On the surface, that might not seem like an aviation safety issue, but it is. If you're depressed, your head isn't in the cockpit; it's on whatever it is that's making you depressed or it's wondering why life just isn't going your way. That means a significant part of your ability to make aeronautical decisions is impaired. Depression is a major problem in this day and age, and as the article on page 17 indicates, most people affected by it can overcome it and without losing medical certification. The cultural or sociological reasons behind why depression increased markedly in the last few decades is not the subject here; rather, it's admitting to yourself that depression might be affecting you. If it is affecting you, it won't be long before it will somehow affect your flying, and it can put an end to your flying in a way you might not even want to think about—an accident, for instance.

What I'm trying to say here, facing a spate of holidays (I'm writing this in early November) which sees the numbers of suicides increase, is that being physically ready to fly may not be enough. Again, you have to have your head—sound, hale, and healthy itself—in the game.

I'm not trying to be preachy, and I actually have some right to urge people who are on that edge to step back and get some help. I've been there, one foot hovering over that long drop. My own father walked up to that edge. He didn't step back.

I stepped back from the edge because I swallowed the stubborn Scots/Irish pride, which taught me to tough things out, and said, "I need to talk to someone about what's going on with me." It was truly the hardest thing I've ever had to do, but it was also the best thing I could have done. I was so far down that I actually grounded myself—some sense was rattling about in my beleaguered head—and in the long run, it wasn't for long. Flying, it turned out, was an incentive for me to face the demons and exorcise them because I missed being in the air.

So, don't skip over the article on page 17 because it might make you uncomfortable (if it does, it might be striking close to home) or it's not about aviation safety. It is. Let's face it, holidays are some of our roughest times emotionally. Post-holiday time can be a big let-down. You may have lost someone you love. Your business may be tanking, or your life just doesn't feel right. Whatever it is, get some help. Don't let depression take your head out of flying, and don't lose your life—literally. What dreams may come over that edge is something none of us wants to see for a long, long time.

May this new year be healthy and happy for us all—regardless of who finally became President!

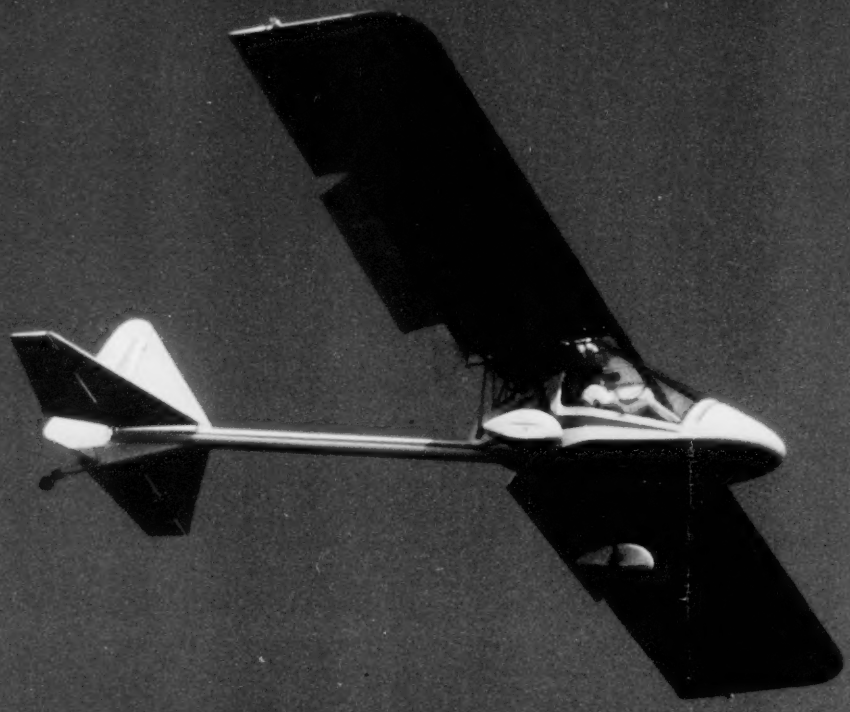
'Til next time…

United States
Government
Printing Office

Superintendent
of Documents

Washington, D.C. 20402

Official Business
Penalty for Private Use $300

BULK RATE
POSTAGE & FEES PAID
GPO
PERMIT NO. G-26

DO NOT DELAY -- CRITICAL TO FLIGHT SAFETY!